APPENDIX K1

North Fiesta Island CHRMP

MISSION BAY PARK IMPROVEMENTS PROGRAM

North Fiesta Island Wetlands
Conceptual Habitat Restoration and Monitoring Plan
San Diego, California

Prepared for:

The City of SAN DIEGO

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ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
AA	assessment area
BMP	best management practice
CCC	California Coastal Commission
CDFW	California Department of Fish and Wildlife
City	City of San Diego
CRAM	California Rapid Assessment Method
Improvement Zone	Mission Bay Park Improvement Zone
PEP	plant establishment period
CHRMP	Conceptual Habitat Restoration and Monitoring Plan
Project	North Fiesta Island Wetlands Restoration Project
RWQCB	Regional Water Quality Control Board
SDBG	San Diego Biology Guidelines
USACE	U.S. Army Corps of Engineers

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SUMMARY

This Conceptual Habitat Restoration and Monitoring Plan (Plan) for the North Fiesta Island Wetlands Restoration Project (Project) provides design parameters to create a tidal saltmarsh that would improve the water quality and expand aquatic wetlands resources and wildlife habitat within Mission Bay. The Project would consist of approximately 43.49 acres of subtidal channels, mudflats, low marsh, mid marsh, high marsh, transitional wetland area, beach, and upland habitat; and 1.05 acres of developed land (road and picnic features). approximately 44.54 acres are located within the grading footprint and 3.33 acres are located outside of the grading footprint.

The Mission Bay Park Master Plan (MBPMP) Update identifies North Island Subarea as one of three locations for restoration of tidal wetlands (City of San Diego 2021a. The Project is part of Mission Bay Park Improvements Program that is analyzed in the Program Environmental Impact Report for multiple improvement projects within the Mission Bay Improvement Zone (Improvement Zone). The overall Improvement Zone encompasses all of Mission Bay Park including portions of Tecolote Creek, Cudahy Creek, and the San Diego River.

The Project site, containing the California least tern preserve, is located in the North Island Subarea as identified in the MBPMP, an artificial island located on the east side of Mission Bay. Fiesta Bay is located directly west of the Project site, and uplands are located south (Figure 1, Project Location, and Figure 2, Project Site). The entire Project site is located within the Coastal Zone under the jurisdiction of California Coastal Commission and portions of the site that interface with bay water is under the jurisdiction of the U.S. Army Corps of Engineers (USACE). Most of the north Island Subarea is located within the City of San Diego's Multi-Habitat Planning Area (MHPA). The MHCP boundary would be adjusted to include the entire proposed wetlands restoration area and new California least tern preserve.

Four existing habitats and land cover types were mapped within the wetland restoration area: beach, open water, disturbed southern coastal salt marsh and disturbed land. Approximately 0.90 acres of open water is considered a wetland water by the City of San Diego and 3.41 acres of beach is considered wetlands per the City of San Diego's Biology Guidelines (SDBG, City of San Diego 2018). Approximately 0.15 acre of disturbed southern coastal salt marsh is considered a wetland under the jurisdiction of the Regional Water Quality Control Board (RWQCB), the California Coastal Commission (CCC), and the City of San Diego (City). Approximately 0.90 acres of open water, considered a non-wetland water under the jurisdiction of the U.S. Army Corps of Engineers (USACE), the RWQCB, and the CCC, and approximately 3.41 acres of beach, considered a non-wetland water under the jurisdiction of the USACE, the RWQCB, and the CCC, occur within the wetland restoration area.

The restoration of subtidal channels, mudflats, saltmarsh, transitional wetland, and coastal strand habitats would provide substantial functional lift and habitat value, resulting in a net increase of wetland function. Resource impacts as a result of the wetland restoration would be mitigated on site through credit reduction for the overall Project. Therefore, the Project would be self-mitigating. The proposed native plant communities and wildlife habitat are intended to become self-sustaining with a minimum of long-term management activities, in perpetuity.

The Plan outlined herein provides guidelines for the restoration of 10.8 acres of open water/subtidal channels, 4.6 acres of mudflat, 23.4 acres of saltmarsh, 2.6 acres of transitional wetland, and 3.3 acres of upland, and 5.4 acres of beach for a total of 50.1 acres of restored area that would provide increased habitat and aquatic functions and values within Mission Bay. In addition, 1.05 acres of developed land (0.70-acre of road and 0.35 acres of picnic features) would be created as outlined in the Preliminary Engineering Report (Moffatt & Nichol 2025).

This Plan presents information on baseline conditions, design grading and installation procedures, maintenance, monitoring, reporting, performance standards, and restoration that are necessary for successful establishment of self-sustaining wetland functions and values.

1 INTRODUCTION

1.1 PROJECT BACKGROUND

Proposition C was approved on November 4, 2008, which amended the City of San Diego (City) Charter by adding Section 55.2. Proposition C created the Mission Bay Park Improvement Fund for projects identified within the approximately 4,387-acre Mission Bay Park Improvement Zone (Improvement Zone). The Improvement Zone includes portions of Tecolote Creek, Cudahy Creek, and the San Diego River as it passes through the boundaries of Mission Bay Park.

The North Fiesta Island Wetlands Restoration Project (Project) is a component of the Mission Bay Park Improvements Program, which is analyzed in the Program Environmental Impact Report. North Fiesta Island is one of several water quality and habitat projects that are planned within the Improvement Zone. The ultimate goal is to enhance the conditions of the Improvement Zone to advance water quality improvements in Mission Bay as outlined by the Mission Bay Park Master Plan water quality improvements initiative. As part of the Program Environmental Impact Report, preliminary engineering reports are being prepared for North Fiesta Island, Tecolote Creek and Fiesta Island Causeway, Cudahy Creek (Leisure Lagoon), Shoreline Restoration, Upland Habitat Expansion, , Mission Bay Improvement Zone Bicycle and Pedestrian Paths, Mission Beach Seawall Improvements, and Deferred Maintenance. The preliminary engineering reports provide the basis of design for the restoration projects.

The Mission Bay Park Master Plan Update identifies North Fiesta Island (Figure 1, Project Location, and Figure 2, Project Site) as one of three locations for restoration of tidal wetlands where the ultimate wetland area should be derived by balancing habitat restoration, water quality, flood control, aquatic restoration, and public safety (City of San Diego 2021a). Moffatt & Nichol (2025) prepared a Preliminary Engineering Report (PER) for North Fiesta Island that provides a hydraulic analysis to estimate water quality improvement performance at the proposed wetland area during storm events, and to provide engineering and design parameters. This Conceptual Habitat Restoration and Monitoring Plan (CHRMP) incorporates information from the as the basis of design for the restoration project.

The following sections of this Plan outline the restoration workplan of the Project, including the restoration of coastal tidal saltmarsh habitat (Figure 3, Conceptual Site Plan). This restoration effort supports the zonation of aquatic resources that benefit all trophic levels, from macroinvertebrate species on the low end of the food chain to diverse avian species that preferentially feed within specific habitat types. The grading design provides for a gentle transition from the wetland restoration area into adjacent restoration areas around the Project fringe. The gentle transition

creates space for the expression of low, mid, and high salt marsh species, which then transition into wetland and coastal strand species.

1.2 PROJECT LOCATION

Mission Bay is an important resource within coastal San Diego, providing low-cost public recreation to San Diego County residents. Past emphasis on recreation has degraded environmental conditions associated with water quality and wildlife habitat that are equally essential functions of Mission Bay. Selection of the Project location is keyed to incoming waters from former tributaries of the San Diego River, including Tecolote Creek, and Cudahy Creek. These entry points are considered the optimal locations where water quality improvements are possible using biological filtration from restored self-sustaining native saltmarsh vegetation communities and mudflats that support macro-benthic invertebrate populations.

North Fiesta Island is located within the Smiley Lagoon Mission Bay subwatershed, encompassing 67 square kilometers of highly urbanized area within the City of San Diego, primarily located in the Claremont Neighborhood. The Project site is located in the northern reach of Fiesta Island, an artificial island located on the east side of Mission Bay. A least tern preserve is located to the north and the Fiesta Island Youth Camp and Aquatic Center is located to the southeast. Fiesta Bay is located directly east and west of the Project site, and uplands are located to the north and south (see Figure 1 and Figure 2). The entire Project site is located within the California Coastal Commission and City of San Diego Coastal Zones (City of San Diego 2018). A portion of the restoration area is located within the City's Multi-Habitat Planning Area. The Project site is on the U.S. Geological Survey 7.5-minute La Jolla quadrangle map in Township 16 South, and Range 3 West, Section 17.

1.3 PROJECT OBJECTIVES

The following are overall goals for the Mission Bay Park Improvements Program, which are based, in part, on the goals of Section 55.2 of Article V of the City of San Diego Charter:

1 Restoration of navigable waters within Mission Bay Park and elimination of navigational hazards. When depth conditions no longer support and ensure safe navigation, those areas that pose a danger or impede the passage of watercraft would be dredged in accordance with the Mission Bay Baseline Chart.

2 Wetland expansion and water quality improvements and the protection and expansion of eelgrass beds as identified in the Mission Bay Park Master Plan.

3 Restoration of shoreline treatments within the Mission Bay Park Improvement Zone including restoration of beach sand and stabilization of erosion control features.

4 Expansion of endangered or threatened species preserves and upland habitats on North Fiesta Island and along the levee of the San Diego River floodway as identified in the Mission Bay Park Master Plan.

5 Completion of bicycle and pedestrian paths and bridges as identified in the Mission Bay Park Master Plan, installation of sustainable lighting in the Mission Bay Park Improvement Zone, installation of signage and landscaping at points of entry to Mission Bay Park and the South Shores, and the repair, resurfacing and restriping of parking lots within the Mission Bay Park Improvement Zone.

6 Deferred maintenance that are also Capital Improvements hereunder on existing assets within the Mission Bay Improvement Zone as may be recommended by the Mission Bay Park Improvement Fund

The Project is designed with the primary goal of complying with the Mission Bay Park Master Plan. The Mission Bay Park Master Plan includes the following key recommendation for water quality (City of San Diego 20021a p.4):

> It is broadly recognized that the Park's economic and recreational future depends on the quality of the Bay's water. In response to fluctuating quality of the Bay waters, this Plan proposes a comprehensive set of measures involving state-of-the-art biological, mechanical, public education and recreation management programs. Biological measures include the establishment of salt-water marshes that can naturally filter pollutants as they enter the Bay through the creeks that drain the Bay's watershed.

In addition, the North Fiesta Island Amendment (November 3, 2021). North Fiesta Island Amendment (November 3, 2021) specifically stipulates requirements for the North Fiesta Island wetland restoration project:

The Island's north subarea is a controlled habitat preserve area for the California Least Tern. In addition to sandy areas, this area includes mudflats, lower, mid and upper salt marsh and expanded wetland habitat. The existing mile-long paved roadway located around the perimeter of the subarea would be removed except for an approximately 1,600-foot-long segment on the east side, which would be converted to solely pedestrian and bicycle use. The shortened roadway (to be regraded to drain inward, away from the coast, to promote wetland formation) would be for bicycles and

pedestrians, allowing the public to access the beach areas on the east side of the peninsula outside of the Least Tern breeding season. Gates provided at both the western and eastern entry points to the northern area. Maintain visibly permeable, fences with anti-perching features and interpretive signage around the Least Tern and salt marsh sites, with the interior space to be accessed only by authorized individuals. Public access would be maintained to the roadway and eastern beach areas outside of the Least Tern breeding season, and the remainder of the north subarea would be closed to public access year-round to protect the Least Tern and salt marsh sites. Dredge a channel across the Island along with bridges at the western and eastern roadway points to create new habitat areas and improve water circulation. The habitat improvements to the least tern nesting site and new wetlands would be prioritized in the overall redevelopment of Fiesta Island and would be completed prior to full redevelopment of the Southeast Subarea.

Site specific objectives for the Project are as follows:

- Re-establish a multi-gradient saltmarsh to include subtidal channels, mudflat, low-level (low) saltmarsh, mid-level (mid) saltmarsh, and high-level (high) saltmarsh.
- Re-establish a tidal prism of diverse, self-sustaining native saltmarsh communities.
- Shorten the tidal pathway through Fiesta Island and facilitate increased tidal exchange between Fiesta Bay and the open waters of Fiesta Island.
- Provide a native buffer south side of the least tern preserve, and foraging and potential nesting habitat for least tern and other avian species.
- Provide increased habitat functions and aquatic functions that benefit all trophic levels, from macroinvertebrate species on the low end of the food chain to diverse avian species that preferentially feed within specific upland habitat types.
- Provide appropriate upland erosion control on all upland areas surrounding the Project site.
- Prevent any impacts to threatened and endangered native wildlife species through appropriate minimization measures.

1.3.1. TARGET HABITAT TYPES TO BE ESTABLISHED

The Project would create 23.5 acres of tidal salt marsh habitat, including gradated areas of low, mid, and high marsh vegetation communities; 4.6 acres of mudflat; 10.8 acres of subtidal channels; 2.6 acres of transitional wetland habitat; and 3.3 acres of upland. Plant palettes and installation details are presented in Section 6, Planting Plan, for each vegetation community.

This CHRMP and the intended wetlands restoration is integrated with the California Least Tern Preserve design that is included in the Upland Habitat Expansion CHRMP (Dudek 2025). The two projects share a common border and encompass the entire North Island Subarea. These projects are fully integrated ecologically and topographically, However, due to the unknown funding availability that would allow the two projects to be built together, consideration of separate projects is presented below in case construction of the two restoration projects is separated in time. These scenario describe site grading modifications that would be required to allow each project to be built independently.

1.3.2.1 CLT Preserve Construction in Advance of Wetlands Restoration Project

Preserve grading would terminate on the eastern project boundary at a temporary 2:1 slope that slopes into the Preserve that daylights at higher existing elevations to the east. The toe of the temporary 2:1 slope would coincide with the top of the future 20:1 side slope that would be built in conjunction with the NFI wetlands restoration project. For more information of the CLT Nesting Preserve, please refer to the Upland Conceptual Habitat Restoration and Monitoring Plan.

1.3.2.2 Wetland Restoration Project in Advance of CLT Nesting Preserve

Construction of the NFI wetlands restoration project in advance of CLT nesting preserve construction would occur per the wetlands grading design. A temporary 2:1 slope would be constructed along the western edge of the wetlands site along the interface with the future CLT nesting preserve. During future construction of the CLT preserve, the temporary 2:1 slope would be graded down to a 20:1 side slope that connects the wetlands restoration project area with the CLT nesting preserve. Unlike the scenario described in 2.1.1, building the wetlands site in advance of the CLT nesting preserve would create special access requirements for grading equipment when the CLT preserve is built because the wetlands project would create a sub-tidal channel across North Fiesta Island that must be crossed by earthwork equipment. Therefore, a temporary land bridge would be constructed within the wetlands channel to allow for free movement of large earthwork equipment to haul 100,000 cubic yards of excavated material from the CLT nesting preserve as well as an additional volume of clean sand that would be imported to the site. Once grading is complete, the land bridge fill would be removed to restore tidal exchange within the channel. Additional replanting and re-establishment of salt marsh habitat would likely be required due to the temporary crossing impacts.

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2 REGULATORY SETTING

Federal, state, and local agencies enforce jurisdiction over portions of proposed restoration sites of in areas immediately adjacent to restoration sites, In addition, some sites support populations of listed species thar are regulated by federal and/or state agencies. In some cases, these species are covered under the City's MSCP. Where coverage is not provided, an informal consultation would be required with the potential for permit applications and permit acquisition prior to project implementation.

2.1 FEDERAL

2.1.1 FEDERAL ENDANGERED SPECIES ACT

The federal Endangered Species Act (FESA) of 1973 (16 USC 1531 et seq.), as amended, is administered by the U.S. Fish and Wildlife Service (USFWS), National Oceanic and Atmospheric Administration, and National Marine Fisheries Service. This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend and provide programs for the conservation of those species, thus preventing extinction of plants and wildlife. Under provisions of Section 9(a)(1)(B) of FESA, it is unlawful to "take" any listed species. "Take" is defined in Section 3(19) of FESA as, "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." FESA provides for designation of critical habitat for species designated as endangered, defined in Section 3(5)(A) as specific areas within the geographical range occupied by a species where physical or biological features "essential to the conservation of the species" are found and "which may require special management considerations or protection." Critical Habitat may also include areas outside the current geographical area occupied by the species that are nonetheless "essential for the conservation of the species."

The FESA allows for the issuance of "incidental take" permits for listed species under Section 7, which is generally available for components that also require other federal agency permits or other approvals, and under Section 10, which provides for the approval of habitat conservation plans on private property without any other federal agency involvement. Incidental take is defined as "take that results from, but is not the purpose of, carrying out an otherwise lawful activity" (50 CFR, Parts 17.22 and 17.32).

2.1.2 MIGRATORY BIRD TREATY ACT

The Migratory Bird Treaty Act (MBTA) prohibits the take of any migratory bird or any part, nest, or eggs of any such bird. Under the MBTA, "take" is defined as pursue, hunt, shoot, wound, kill trap,

capture, or collect, or any attempt to carry out these activities (16 USC 703 et seq.). The number of bird species covered by the MBTA is extensive; the species are listed in Title 50 of the Code of Federal Regulations, Part 10.13. The regulatory definition of "migratory bird" is broad and includes any mutation or hybrid of a listed species, and also includes any part, egg, or nest of such birds (50 CFR 10.12). The MBTA, which is enforced by USFWS, makes it unlawful "by any means or in any manner, to pursue, hunt, take, capture, [or] kill" any migratory bird or attempt such actions, except as permitted by regulation. The applicable regulations prohibit the take, possession, import, export, transport, sale, purchase, barter, or offering of these activities, except under a valid permit or as permitted in the implementing regulations (50 CFR 21.11). Additionally, Executive Order 13186, "Responsibilities of Federal Agencies to Protect Migratory Birds," requires that any component with federal involvement address impacts of federal actions on migratory birds with the purpose of promoting conservation of migratory bird populations (66 FR 3853–3856). The Executive Order requires federal agencies to work with USFWS to develop a memorandum of understanding. USFWS reviews actions that might affect these species.

Currently, birds are considered to be nesting under the MBTA only when there are viable eggs or chicks, which are dependent on the nest.

Local implementation of the MBTA typically involves a qualified biologist conducting a nesting bird survey prior to construction activities between February 1 and September 15. Such surveys are required in all construction areas where natural or ornamental trees, shrubs, and ground cover may provide suitable nesting habitat for protected species. A nest avoidance buffer, as determined by the qualified biologist, would be established and serve to protect active nests from direct and indirect disturbance until breeding activities have been completed.

2.1.3 COASTAL ZONE MANAGEMENT ACT OF 1972

The Coastal Zone Management Act of 1972 (16 USC Sections 1451–1464, Chapter 33) is administered by the National Oceanic and Atmospheric Administration's Office of Ocean and Resource Management and was established as a national policy to preserve, protect, develop, and – where possible – enhance or restore the coastal zone in the United States. The federal consistency provision, Section 307 of the Coastal Zone Management Act, encourages states to join the Coastal Zone Management Program, which takes a comprehensive approach to coastal resource management by balancing the competing and/or conflicting demands of coastal resource use, economic development, and conservation and allows states to issue the applicable permits. California has a federally approved Coastal Zone Management Program, and the Coastal Zone Management Act is administered by the California Coastal Commission (CCC). Therefore, the Coastal

Zone Management Program and permit requirements are discussed further in the California Coastal Act section below.

2.2 STATE

2.2.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT

The California Environmental Quality Act (CEQA) requires identification of a project's potentially significant impacts on biological resources and feasible restoration measures and alternatives that could avoid or reduce significant impacts. CEQA Guidelines Section 15380(b)(1) defines endangered animals or plants as species or subspecies whose "survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors" (14 CCR 15000 et seq.). A rare animal or plant is defined in CEQA Guidelines Section 15380(b)(2) as a species that, although not presently threatened with extinction, exists "in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or … [t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered 'threatened' as that term is used in the federal Endangered Species Act." Additionally, an animal or plant may be presumed to be endangered, rare, or threatened if it meets the criteria for listing, as defined further in CEQA Guidelines Section 15380(c). CEQA also requires identification of a project's potentially significant impacts on riparian habitats (such as wetlands, bays, estuaries, and marshes) and other sensitive natural communities, including habitats occupied by endangered, rare, and threatened species.

2.2.2 CALIFORNIA COASTAL ACT

The CCC was established by voter initiative in 1972 and was made permanent by the California Legislature through the adoption of the California Coastal Act of 1976 (CCA; California Public Resources Code Section 30000 et seq.). The CCC, in partnership with coastal cities and counties, plans and regulates the use of land and water in the coastal zone. Under the CCA, cities and counties are responsible for preparing local coastal programs in order to obtain authority to issue coastal development permits for projects within their jurisdiction. Local coastal programs consist of land use plans, zoning ordinances, zoning maps, and other implementing actions that conform to the policies of the CCA. Until an agency has a fully certified local coastal program, the CCC is responsible for issuing coastal development permits.

Under the CCA, Section 30107.5, environmentally sensitive habitat areas are areas within the coastal zone that are "designated based on the presence of rare habitats or areas that support populations of rare, sensitive, or especially valuable species or habitats." In addition, the CCC regulates impacts

to coastal wetlands defined in Section 30121 of the CCA as, "lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens." The CCA requires that most development avoid and buffer coastal wetland resources in accordance with Sections 301231 and 30233, including limiting the filling of wetlands to certain allowable uses.

The Biological Study Area (BSA) is located entirely within the coastal zone.

2.2.3 CALIFORNIA ENDANGERED SPECIES ACT

The California Department of Fish and Wildlife (CDFW) administers the California Endangered Species Act (CESA; California Fish and Game Code [CFGC], Section 2050 et seq.), which prohibits the "take" of plant and animal species designated by the Fish and Game Commission as endangered or threatened in the State of California. Under CESA Section 86, "take" is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA Section 2053 stipulates that state agencies may not approve projects that would "jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat which would prevent jeopardy."

CESA Sections 2080 through 2085 address the taking of threatened, endangered, or candidate species by stating, "No person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the Commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided in this chapter, the Native Plant Protection Act (CFGC, Sections 1900–1913), or the California Desert Native Plants Act (Food and Agricultural Code, Section 80001)." Take authorization for otherwise lawful activities may be obtained from CDFW under Section 2081 of the CFGC.

2.2.4 CALIFORNIA FISH AND GAME CODE

According to Sections 3511, 4700, 5050, and 5515 of the CFGC, which regulate birds, mammals, reptiles and amphibian, and fish, respectively, a "fully protected" species may not be taken or possessed without a permit from the CFGC, and, with few exceptions, take of these species is prohibited.

According to Section 3503, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.

Section 3503.5 states that it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto. Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA.

The Native Plant Protection Act of 1977 (CFGC, Section 1900 et seq.) gives CDFW authority to designate state endangered, threatened, and rare plants, and provides specific protection measures for identified populations.

2.3 LOCAL REGULATIONS AND CONSERVATION PLANS

2.3.1 SAN DIEGO MULTIPLE SPECIES CONSERVATION PROGRAM

The City is a participant in the San Diego Multiple Species Conservation Program (MSCP), a comprehensive, regional long-term habitat conservation program designed to provide permit issuance authority for take of covered species to the local regulatory agencies. The MSCP addresses habitat and species conservation within approximately 900 square miles in the southwestern portion of San Diego County. It serves as an approved habitat conservation plan pursuant to an approved Natural Communities Conservation Plan in accordance with the state Natural Communities Conservation Planning Act.

The MSCP establishes a preserve system designed to conserve large blocks of interconnected habitat having high biological value that are delineated in Multi-Habitat Planning Areas (MHPAs). The City MHPA is a “hard line” preserve developed by the City in cooperation with the wildlife agencies, property owners, developers, and environmental groups. The MHPA identifies biological core resource areas and corridors targeted for conservation, in which only limited development may occur (City of San Diego 1997).

The MSCP identifies 85 plants and animals to be “covered” under the plan (termed Covered Species). Many of these Covered Species are subject to one or more protective designations under state and/or federal law and some are endemic to San Diego. The MSCP seeks to provide adequate habitat in the preserve to maintain ecosystem functions and persistence of extant populations of the 85 Covered Species while also allowing participating landowners “take” of Covered Species on lands located outside of the preserve. The purpose of the MSCP is to address species conservation on a regional level and thereby avoid component-by-component biological restoration, which tends to fragment habitat.

2.3.2 CITY OF SAN DIEGO MSCP SUBAREA PLAN

The City of San Diego MSCP Subarea Plan (Subarea Plan) (City of San Diego 1997) encompasses 206,124 acres within the MSCP Subregional Plan area. The proposed study area is located within the Urban areas of the Subarea Plan. The Urban habitat areas within the MHPA include existing designated open space such as Mission Bay, Tecolote Canyon, Marian Bear Memorial Park, Rose Canyon, San Diego River, the southern slopes along Mission Valley, Carroll and Rattlesnake Canyons, Florida Canyon, Chollas Creek, and a variety of smaller canyon systems. The Southern area includes Otay Mesa, Otay River Valley, and Tijuana Estuary and Tijuana River Valley. The Eastern area includes East Elliott and Mission Trails Regional Park.

The Subarea Plan is characterized by urban land uses with approximately three-quarters either built out or retained as open space/park system. Portions of the BSA are located within and adjacent to MHPA boundaries (City of San Diego 1997, Figure 33, City of San Diego MSCP Subarea and MHPA). The MHPA is considered an urban preserve that is constrained by existing or approved development and is comprised of habitat linkages connecting several large core areas of habitat. The criteria used to define core and linkage areas involves maintaining ecosystem function and processes, including large animal movement. Each core area is connected to other core areas or to habitat areas outside of the MSCP either through common boundaries or through linkages. Core areas have multiple connections to help ensure that the balance in the ecosystem would be maintained (City of San Diego 1997). Critical habitat linkages between core areas are conserved in a functional manner with a minimum of 75% of the habitat within identified linkages conserved (City of San Diego 1997).

2.3.3 CITY OF SAN DIEGO LAND DEVELOPMENT CODE – ENVIRONMENTALLY SENSITIVE LANDS REGULATION AND BIOLOGY GUIDELINES

The City of San Diego Development Services Department (DSD) developed the City of San Diego Biology Guidelines (SDBG) presented in the Land Development Manual "to aid in the implementation and interpretation of ESL [Environmentally Sensitive Lands] Regulations, San Diego LDC [Land Development Code], Chapter 14, Division 1, Section 143.0101 et seq., and the Open Space Residential (OR-1-2) Zone, Chapter 13, Division 2, Section 131.0201 et seq." (City of San Diego 2018a). The guidelines also provide standards for the determination of impact and mitigation under CEQA and the CCA. Sensitive biological resources, as defined by ESL Regulations, include lands within the MHPA, as discussed in Section 1.3.3 of this report, as well as other lands outside of the MHPA that contain wetlands; vegetation communities classifiable as Tier I, II, IIIA, or IIIB; habitat for rare, endangered, or threatened species; or narrow endemic species. The San Diego Municipal Code ranks upland habitat values by rarity and sensitivity. The most sensitive habitats are Tier I, and the

least sensitive are Tier IV. The varying restoration ratios and requirements that restoration be either in-tier or in-kind are based on the sensitivity of the habitat being affected.

The City's definition of wetlands is broader than the definition applied by the U.S. Army Corps of Engineers (USACE). According to the SDBG (City of San Diego 2018a), City wetlands include areas characterized by one or more of the following conditions:

1. All areas persistently or periodically containing naturally occurring wetland vegetation communities characteristically dominated by hydrophytic vegetation, including but not limited to salt marsh, brackish marsh, freshwater marsh, riparian forest, oak riparian forest, riparian woodlands, riparian scrub, and vernal pools;

- Areas that have hydric soils or wetland hydrology and lack naturally occurring wetland vegetation communities because human activities have removed the historic wetland vegetation or catastrophic or recurring natural events or processes have acted to preclude the establishment of wetland vegetation as in the case of salt pannes and mudflats;
- Areas lacking wetland vegetation communities, hydric soils, and wetland hydrology due to non-permitted filling of previously existing wetlands; or
- Areas mapped as wetlands on Map C-713 as shown in Chapter 13, Article 2, Division 6 (Sensitive Coastal Overlay Zone).

Per the SDBG, areas that contain wetland vegetation, soils, or hydrology created by human activities in historically non-wetland areas do not qualify as wetlands under the City's definition unless they have been delineated as wetlands by the USACE and/or CDFW (City of San Diego 2018a). Artificially created wetlands consist of the following: wetland vegetation growing in brow ditches and similar drainage structures outside of natural drainage courses; wastewater treatment ponds; stock watering, desiltation, and retention basins; water ponding on landfill surfaces and road ruts created by vehicles; and artificially irrigated areas that would revert to uplands if the irrigation ceased. Previously dredged tidal areas, such as Mission Bay, should be considered wetlands under ESL Regulations (City of San Diego 2018a).

Guidelines that supplement the development regulation requirements described in this section are provided in the SDBG (City of San Diego 2018a). The Program is located entirely within the Coastal Overlay Zone (COZ), and therefore wetlands within the BSA would require adherence to the COZ wetland buffer regulations (City of San Diego 2018a). According to the SDBG, a wetland buffer is an area surrounding a wetland that helps protect the function and value of the adjacent wetland by reducing physical disturbance, provides a transition zone where one habitat phases into another,

and acts to slow flood waters for flood and erosion control, sediment filtration, water purification, and groundwater recharge (City of San Diego 2018a). Within the COZ, wetland buffers should be provided at a minimum of 100 feet wide adjacent to all identified wetlands within the COZ. The width of the buffer may be either increased or decreased as determined on a case-by-case basis, in consultation with the CDFW, USFWS, and the USACE The width of the buffer is determined by factors such as type and size of development, sensitivity of the wetland resource to edge effects, topography, and the need for upland transition (City of San Diego 2018a). Per ESL Regulations, uses permitted in wetlands within the COZ are limited to aquaculture, wetlands-related scientific research and wetlands-related educational uses; wetland restoration components where the primary purpose is restoration of the habitat; and incidental public service components, where it has been demonstrated that there is no feasible less environmentally damaging location or alternative, and where restoration measures have been provided to minimize adverse environmental effects. Also per ESL Regulations, permitted uses in wetland buffer areas shall be limited to public access paths, fences, restoration and enhancement activities, and other improvements necessary to protect wetlands. ESL Regulations also lists permitted uses and developmental regulations for steep hillsides, coastal bluffs, coastal beaches, and special flood hazard areas.

2.3.4 CITY OF SAN DIEGO GENERAL PLAN

The proposed component is located in the City of San Diego and therefore is subject to the goals and policies in the City's General Plan. The General Plan was adopted in March 2008, and was most recently amended in July 2024. The General Plan provides policy guidance to balance the needs of a growing city while enhancing the quality of life for current and future San Diegans. It includes the City of Villages strategy which outlines how the City can enhance its many communities and neighborhoods as growth occurs over time. The General Plan contains 11 elements that provide a comprehensive "blueprint" for the City's growth over the next 20 plus years. As shown in the General Plan land use map (City of San Diego 2024a, Figure LU-2), the component site is located in an area that is designated as Park, Open Space, and Recreation.

2.3.5 Mission Bay Park Master Plan

The component site falls within the boundaries of Mission Bay Park—a regional park that serves the residents of and visitors to San Diego. The MBPMP was adopted on August 2, 1994, and was most recently updated on November 23, 2021 (City of San Diego 2021. The MBPMP serves as the local coastal program for this area of the City. The proposed component is subject to the goals and recommendations established in the MBPMP, and the proposed component would be incorporated into the MBPMP as an amendment. The MBPMP recommends that the proposed study area should serve regional recreation needs, including guest housing (recreational vehicles and other low cost

camping facilities); improve the park's water quality, including creating additional wetlands; facilitate hydrologic improvements to safeguard the viability of marsh areas; provide a waterfront trail, viewing areas, and other passive recreational features to enhance public use of the component area; ensure leaseholds support the Mission Bay recreation use; improve access to recreational uses; and improve play areas for regional recreational needs.

2.3.6 THE "WHITEBOOK"

The City of San Diego published *The "Whitebook" Standard Specifications for Public Works Construction* (City of San Diego 2021b), which includes many standard practices that result in minimization of impacts to biological resources, including biological monitoring, materials suitability, safe construction methods, avian nest protection, tree protection, landscape standards, and stormwater protection measures. The "Whitebook" prescribed measures and standards are incorporated into the Program as Environmental Protocols.

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3 EXISTING CONDITIONS AND REGULATORY REQUIREMENTS

Baseline conditions are included in this section and are used to help determine the appropriate restoration and success criteria, as well as guide restoration design, installation, and maintenance.

3.1 ENVIRONMENTAL SETTING OF IMPACTED AREA

3.1.1 EXISTING HABITATS AND LAND COVER TYPES

The City's Biology Guidelines categorize existing habitats and land cover types by tier level to represent the sensitivity of these communities. Land cover types mapped within the Project site consisted of beach, open water, and disturbed habitat. Beach and open water are considered sensitive per the City's Biology Guidelines (City of San Diego 2018). The existing habitats and land cover types are summarized in Table 1 and the following subsections, and depicted in Figure 9, Existing Habitats and Special-Status Plants.

Table 1
Existing Habitats and Land Cover Types Occurring Within the North Fiesta Island Restoration Area

Existing Habitats and Land Cover Types	City of San Diego SDBG Habitat Type*	Project Area	
		Inside Restoration Area (acres)	*Outside Restoration Area (acres)*
Riparian and Wetlands			
Beach	Wetland	5.32	1.63
Open Water	Wetland	0.90	1.28
Disturbed Southern Coastal Salt Marsh	Wetland	0.15	0
Uplands			
Disturbed Habitat	Tier IV Uplands	38.17	0.42
Beach	Tier IV Uplands	1.91	0
	Total	**44.54**	**3.33**

3.1.1.1 Beach (Wetland Community, Holland Code 64400)

Beach habitat is classified as sandy and/or cobbly mainly unvegetated habitat on coastal strands, lagoons, or lakes (Oberbauer et al. 2008). Beach habitat occurs along most of the shoreline of Mission Bay and along 6.95 acres (1.91 acres above the high tide line 3.41 acres below the high tide

line) of the overall Project footprint. Although primarily unvegetated, some species, such as woolly seablite (*Suaeda taxifolia*), occur on the beach area at the North Fiesta Island restoration area.

Refer to the Biological Resources Technical Report prepared for the Project for more information (Dudek 2025).

3.1.1.2 Open Water (Wetland Community; Holland Code 64110)

Open water occurs away from the shoreline within Mission Bay and consists of a soft bottom that may be vegetated with eelgrass (*Zostera marina*) or be unvegetated. Open water occupies approximately 0.90 acres within the overall Project footprint. According to the Biological Resources Technical Report, there may be eelgrass located within the eastern footprint of the North Fiesta Island restoration area, but not within the open waters of the western edge (Dudek 2025).

Refer to the Biological Resources Technical Report prepared for the Project for more information (Dudek 2025).

3.1.1.3 Disturbed Southern Coastal Salt Marsh (Wetland Community; Holland Code 52120)

Southern coastal salt marsh is common in bays, estuaries, and lagoons and is influenced by tidal action (Oberbauer 2008). Within the project footprint, southern coastal salt marsh is dominated by Pacific pickleweed (*Sarcocornia pacifica*), cordgrass (*Spartina foliosa*), saltwort (*Batis maritima*), alkali heath (Frankenia salina), and seablite (*Suaeda* sp.). Southern coastal salt marsh occurs in the northern portion of the Improvement Zone within the Northern Wildlife Preserve, along Rose Creek between Grand Avenue and Garnet Avenue, at the mouth of Tecolote Creek, within the San Diego River Flood Control Channel, and along the southern edge of Dog Beach. Approximately 0.15 acres of southern coastal salt marsh occurs within the North Fiesta Island restoration area footprint.

3.1.1.4 Disturbed Habitat (Tier IV Holland Code 11300)

Disturbed habitat is composed mainly of non-native species and areas of bare ground. These areas are repeatedly exposed to human activities or are areas that were previously disturbed by humans. Disturbed habitat occurs throughout the Improvement Zone, primarily on Fiesta Island and areas north of Sea World Drive. Characteristic species include non-native salt-tolerant species such as iceplant and Russian thistle (*Salsola tragus*), and non-native grasses such as ripgut grass (*Bromus diandrus*) and red brome (*Bromus madritensis*). Native salt-tolerant species include woolly seablite, Lewis' evening-primrose (*Camissoniopsis lewisii*), salt heliotrope (*Heliotropium curassavicum*), and other salt marsh species. Approximately 38.17 acres of disturbed habitat occur within the North Fiesta Island restoration area footprint.

Refer to the Biological Resources Technical Report prepared for the Project for more information (Dudek 2025).

3.1.2 SPECIAL-STATUS PLANT SPECIES

Two special-status plant species—woolly seablite and Lewis' evening-primrose—were observed within the wetland restoration area footprint (Figure 9). Woolly seablite has a California Rare Plant Rank of 4.2, plants of limited distribution and fairly threatened in California, and blooms throughout the year. This perennial evergreen shrub occurs in coastal bluff scrub, coastal dunes, and coastal saltmarshes. Lewis' evening-primrose has a California Rare Plant Rank of 3, plants of limited distribution – a watch list, and blooms March through June. This annual herb occurs in coastal bluff scrub and coastal dunes in sandy or clay soils.

3.1.3 WILDLIFE EVALUATION

A total of 142 wildlife species were observed and documented within the Improvement Zone during vegetation mapping surveys, special-status plant surveys, and focused surveys for special-status species. No special-status wildlife species were observed within the North Fiesta Island wetland restoration area.

According the Biological Resources Technical Report, there is suitable habitat within and directly adjacent to the wetland restoration area for the federally threatened and CDFW species of special concern western snowy plover (*Charadrius nivosus nivosus*) and state-listed California least tern (*Sterna antillarum browni*). No western snowy plovers or California least terns have been observed within the restoration area. The beach areas within the Project site that have nesting potential experience intense public recreational use on weekends and holidays throughout the year, and therefore, it is doubtful that these areas are actually suitable for these species (Figure 10, Special-Status Wildlife Species – California Least Tern and Western Snowy Plover) (Dudek 2025).

There is suitable habitat within the wetland restoration area for the federally endangered and state endangered light-footed Ridgeway's rail (*Rallus obsoletus levipes*). However, the area within the Project site that is delineated as suitable nesting habitat is highly degraded and, therefore, it is doubtful that these areas are actually suitable for these species. No light-footed Ridgeway's rails have been observed within the restoration area, and it is doubtful that these areas are actually suitable for this species (Figure 11, Light-Footed Ridgeway's Rail Suitable Habitat) (Dudek 2025).

There is suitable habitat directly adjacent to the wetland restoration area for the CDFW species of special concern western burrowing owl (*Athene cunicularia hypugaea*) and the state endangered Belding's savannah sparrow (*Passerculus sandwichensis beldingi*). No western burrowing owls or

Belding's savannah sparrows have been observed within the restoration area (Figure 12, Special-Status Wildlife Species – Western Burrowing Owl, and Figure 13, Special-Status Wildlife Species – Belding's Savannah Sparrow) (Dudek 2025).

Refer to the Biological Resources Technical Report (Dudek 2025) for additional information.

3.1.4 REGULATORY IMPACTS AND REQUIREMENTS

3.1.4.1 Project Impacts to Aquatic Resources

The purpose of the Project is to restore approximately 43.49 acres of wetland by modifying open water, beach, disturbed habitat, and disturbed southern coastal salt marsh areas within the Project site. Modifications would include creating tidal saltmarsh, subtidal channels, mudflats, transitional wetland, and coastal strand areas. The resulting habitat area would combine open water channels with various saltmarsh habitat types in a matrix that would produce higher productivity than is currently achieved by open water and upland habitats alone; it would also provide water quality benefits.

3.1.4.1.1 Jurisdictional Delineation

A jurisdictional delineation was conducted within the approximately 4,387-acre Improvement Zone. A desktop analysis was performed followed by field analysis at 21 sampling sites. The sites were selected based on vegetation communities and aquatic resources provided from available GIS data, and were chosen to coincide with the projects outlined for the Improvement Zone. The sampling sites were surveyed to determine the presence or absence of wetland field indicators and jurisdictional resources within the Improvement Zone (SES 2025).

3.1.4.1.1.1 Wetland Waters

According to the jurisdictional delineation, wetlands in the form of disturbed southern coastal saltmarsh occur within 0.15 acres of North Fiesta Island (SES 2025). Disturbed coastal saltmarsh is considered jurisdictional by the Regional Water Quality Control Board (RWQCB), California Coastal Commission (CCC), and the City of San Diego. However, Fiesta Island is an artificial island created from disposal of dredged material from Mission Bay in the 1950s. Some areas of Fiesta Island continue to receive disposal of dredged material from ongoing beach maintenance (Merkel & Associates, Oday Consultants 2018). The disturbed coastal saltmarsh is located in the approximate center of the proposed restoration area and is not directly connected to the open waters of Mission Bay. Therefore, this area is considered disturbed habitat.

The City's Land Development Code Biological Guidelines state that previously dredged tidal areas, such as Mission Bay, should be considered wetlands under Environmentally Sensitive Lands

Regulations (City of San Diego 2018). 1.91 acres of beach are above the high tide line and are not considered jurisdictional. 38.17 acres of disturbed habitat are considered non-jurisdictional. 1.63 acres of beach, 1.28 acres of open water, and 0.42 acres if disturbed habitat are located outside of the grading area. Therefore, impacts to approximately 3.41 acres of beach, 0.15 acres of disturbed southern coastal salt marsh, and 0.90 acres of open water are considered wetland waters under the jurisdiction of the City.

For tidal waters associated with Mission Bay, tidal elevation data provided by the nearest National Oceanic and Atmospheric Administration tidal station (San Diego, Station ID 9410170, located on Broadway Pier/San Diego Bay) was used, along with topographic mapping (NOAA 2024). The extent of waters of the United States, as defined by Section 10 of the Rivers and Harbors Act, was determined to extend up to the mean high water (+4.56 feet above mean sea level, North American Vertical Datum 88). The extent of waters of the United States/state, as defined by Clean Water Act Section 404, the State Porter–Cologne Water Quality Act, and the California Coastal Act, was determined to include all Section 10 waters and additional land up to the highest astronomical tide (+7.19 feet above mean sea level, North American Vertical Datum 88). In some locations there are walls or other vertical features, which resulted in the estimated mean high watermark and high tide line (HTL) being co-located.

Historically, the California Department of Fish and Wildlife (CDFW) has not taken jurisdiction over tidally influenced/marine waters. CDFW has indicated that, in general, a line can be drawn around a bay, and the point where a river intersects the bay is where CDFW jurisdiction ends and the resource is considered marine (Weightman, pers. comm. 2017).

3.1.4.1.1.2 Non-Wetland Waters

According to the jurisdictional delineation, the wetland restoration area includes open water and beach. Approximately 0.90 acres of open water, considered non-wetland waters under the jurisdiction of USACE, RWQCB, and the CCC, and approximately 3.41 acres of beach, considered non-wetland waters under the jurisdiction of the CCC, occurs. An additional 1.97 acres of beach and 38.17 acres of disturbed habitat located within the restoration area is considered non-jurisdictional. The Project would affect 4.31 acres of jurisdictional resources (Dudek 2025 and SES 2025).

The jurisdictional resources within the Project site identified as part of the jurisdictional delineation (SES 2025) are presented in Table 2 and shown in Figure 4, Impacts to Jurisdictional Resources.

Table 2
Proposed Jurisdictional Resources within the North Fiesta Island Project Site

Existing Habitat	SDBG Wetland Vegetation Community	Agency Jurisdiction	Jurisdictional Delineation Acreage
*Wetlands Waters**			
Beach*	Marine Habitats	City of San Diego	3.41
Disturbed Coastal Saltmarsh	Salt Marsh	RWQCB, CCC, City of San Diego	0.15
Open Water*	Marine Habitats	City of San Diego	0.90
		Subtotal	*4.46*
*Non-Wetland Waters**			
Beach*	Marine Habitats	USACE, RWQCB, CCC	3.41
Open Water*	Marine Habitats	USACE, RWQCB, CCC	0.90
		Subtotal	*4.31*
		Total Jurisdictional Area*	**4.46**

Source: SES 2025
Notes: CCC = California Coastal Commission; USACE = U.S. Army Corps of Engineers; RWQCB = Regional Water Quality Control Board.
* The wetland waters, as defined by the City of San Diego, and the non-wetland waters, as defined by USACE, RWQCB, and CCC, overlap.

3.1.4.1.2 Project Impacts

The Project is one of several component projects within the Mission Bay Improvements Program which may be constructed independently or in association with other projects in accordance with a programmatic Implementation Plan. The analysis of impacts to biological resources is based primarily on the construction footprint identified in this CHRMP. The footprint is based on the total area of proposed improvements including grading, infrastructure, staging areas, and maintenance areas. Existing biological resources within the footprint is assumed to be directly impacted by the construction of the Project; these impacts to biological resources are identified in this section. A precise comparison of impacts and habitat restoration is not included at this stage due to lack of information regarding the timing of impacts relative to habitat restoration, the precise areas of infrastructure improvements, maintenance areas that would be excluded from mitigation credit, and mitigation agreements with the resource agencies. These additional details are expected to be included in subsequent approvals, as identified in the programmatic Implementation Plan.

The Project is a restoration project providing approximately 22.28 acres of saltmarsh habitat, 4.43 acres of mudflats, 8.60 acres of subtidal channels, 4.50 acres of transitional wetland habitat,

and 3.68 acres of upland habitat, for a total of 43.49 acres of restoration area. An additional 3.33 acres of habitat lie outside of the grading footprint and would not be impacted by the project. Jurisdictional wetland waters and non-wetland waters overlap, so 4.46 acres of overall impacts would occur to jurisdictional resources (4.46 acres of City wetlands; 0.15 acres of CCC and RWCQB wetlands, 4.31acres of USACE, RWCQB, and CCC non-wetland waters). A total of 1.91 acres of impacts would occur to beach and 38.17 acres of disturbed upland habitat that are considered non-jurisdictional (SES 2025).

Pursuant to the San Diego Municipal Code, Land Development Code – Biology Guidelines, direct impacts to sensitive upland habitat require mitigation (City of San Diego 2018). Implementation of the Project would result in permanent impacts to disturbed habitat.

The restoration area would be created by excavating the existing land to lower the interior elevations of the Project footprint to a gradient that gently transitions from the existing elevation down through coastal strand, transitional wetland, saltmarsh, mudflats, and subtidal channels. Excavation would impact invertebrates, shorebirds, and other wildlife species. Soil export from the restoration area is anticipated at approximately 810,000 cubic yards of soil, which can be stockpiled on Fiesta Island or exported directly to other restoration projects within Mission Bay. Stockpiling of soils would displace invertebrates, shorebirds, and other wildlife species. Contour grading would take place to create microtopographic elevations within the saltmarsh. The contour grading would displace invertebrates, fish, and alter avian species' foraging areas. Some biochemical reactions may be impacted in the photic zone of open water where sufficient light penetration allows for photosynthesis. In addition, there may be some minimal indirect impacts to fish, invertebrates, shorebirds, and other wildlife species as a result of this contour grading.

A portion of the beach would be converted to subtidal channel/open water, mudflats, and low saltmarsh, which might alter sediment storage and transport, organic material breakdown, microinvertebrates and other wildlife species, and recreational activities in these areas. Table 2 summarizes Project impacts, and Figures 2 through 4 depict the location, conceptual site plan, and Project impacts.

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Table 3
Proposed Pre-Construction and Post-Construction Jurisdictional Resources within North Fiesta Island Project Area

Pre-Construction Condition		**Post-Construction Conditions**					
Habitat/ Land Cover Types	*Acres*	*Habitat/Land Cover Types*	*Vegetation Communities*	*Mitigation Type[1]*	*Acres*	*Cowardin[2]*	*HGM[3]*
City of San Diego Wetland Waters[4]							
Beach	3.41	Subtidal Channels	N/A	Wetland Restoration	0.77	E1UBL	N/A; Open Water
		Mudflat	N/A	Wetland Restoration	0.23	E1UB3L	N/A; Mudflat with no Vegetation
		Tidal Marsh	Low, Mid, and High Saltmarsh	Wetland Restoration	2.05	E2EM1N	Estuarine Fringe
		Transitional Wetland	Transitional Wetland	Wetland Restoration	0.25	E2EM1P	Estuarine Fringe
		Upland	Coastal Strand	Wetland Restoration	0.08	N/A	N/A; Upland
		Road and Picnic Features	N/A	N/A	0.02	N/A	N/A
Open Water	0.90	Subtidal Channels	N/A	Wetland Restoration	0.87	E1UBL	Estuarine Fringe
		Mudflats	N/A	Wetland Restoration	0.04	E1UB3L	Estuarine Fringe
Disturbed Southern Coastal Salt Marsh	0.15	Tidal Marsh	Low, Mid, and High Saltmarsh	Enhancement	0.15	E2EM1N	Estuarine Fringe
USACE, RWQCB, CCC Non-Wetland Waters[4]							
Beach	3.41	Subtidal Channels	N/A	Rehabilitation	0.77	E1UBL	N/A; Open Water
		Mudflat	N/A	—	0.23	E1UB3L	N/A; Mudflat with no Vegetation
		Tidal Marsh	Low, Mid, and High Saltmarsh	Rehabilitation	2.05	E2EM1N	Estuarine Fringe
		Transitional Wetland	Transitional Wetland	—	0.25	E2SS/EM1	Estuarine Fringe
		Upland	Coastal Strand	—	0.08	N/A	N/A; Upland
		Road and Picnic Features	N/A	N/A	0.02	N/A	N/A
Open Water	0.81	Subtidal Channels	N/A	Rehabilitation	0.87	E1UBL	N/A; Open Water
		Mudflats	N/A	—	0.04	E1UB3L	N/A; Mudflat with no Vegetation
Non-Jurisdictional							
Disturbed	38.17	Subtidal Channels	N/A	Re-establishment/Wetland Restoration	6.55	E1UBL	N/A; Open Water
		Mudflats	N/A	—	4.08	E1UB3L	N/A; Mudflat with no Vegetation
		Tidal Marsh	Low, Transitional, and Mid Saltmarsh	Re-establishment/Wetland Restoration	19.68	E2 EM1N	Estuarine Fringe
		Transitional Wetland	N/A	Re-establishment/Wetland Restoration	4.00		Estuarine Fringe

Table 3
Proposed Pre-Construction and Post-Construction Jurisdictional Resources within North Fiesta Island Project Area

Pre-Construction Condition		Post-Construction Conditions					
Habitat/ Land Cover Types	*Acres*	*Habitat/Land Cover Types*	*Vegetation Communities*	*Mitigation Type*[1]	*Acres*	*Cowardin*[2]	*HGM*[3]
		Upland	N/A	N/A	2.94	N/A	N/A; Upland
		Road and Picnic Features	N/A	N/A	0.92	N/A	N/A
Beach	1.91	Subtidal Channels	N/A	Wetland Restoration	0.41	E1UBL	N/A; Open Water
		Mudflat	N/A	Wetland Restoration	0.08	E1UB3L	N/A; Mudflat with no Vegetation
		Tidal Marsh	Low, Mid, and High Saltmarsh	Wetland Restoration	0.40	E2EM1N	Estuarine Fringe
		Transitional Wetland	Transitional Wetland	Wetland Restoration	0.26	E2EM1P	Estuarine Fringe
		Upland	Coastal Strand	Restoration	0.66	N/A	N/A; Upland
		Road and Picnic Features	N/A	N/A	0.10	N/A	N/A

Notes: HGM = Hydrogeomorphic Method; USACE = U.S. Army Corps of Engineers; RWQCB = Regional Water Quality Control Board; CCC = California Coastal Commission; N/A = not applicable

[1] USACE and RWQCB define the mitigation type as rehabilitation or re-establishment (a form of restoration), and CCC and City of San Diego define the mitigation type as restoration.
[2] Source: Cowardin et al. 1979.
[3] Brinson, M.M. 1993
[4] Note the wetland waters and the non-wetland waters overlap.

3.1.4.2.1.2 Rehabilitation/Wetland Restoration

Mission Bay is the site of the historical estuary of the San Diego River. Historic aerial imagery depicts a complex matrix of open water tidal channels, sloughs, and wetlands that included a variety of habitat types, including mud flats, salt marsh, brackish marsh, and freshwater marsh vegetation communities. The construction of Mission Bay Park dredged and filled these wetlands between 1946 and 1964, and generally reconfigured the wetlands, reducing habitat diversity and permanently removing wetland to create recreation areas, including turf, sand beaches, and open water.

The Project would involve rehabilitation of salt marsh habitat where open water and beach are present providing water quality improvements, topographic complexity, nutrient retention and transformation, sediment and pollutant trapping, and increased habitat and wildlife diversity while retaining some existing resources such as macroinvertebrate substrates. The restoration area would be planted with native wetland species that are consistent with the hydrologic environment and are self-sustaining. This restoration effort would benefit a more diverse native plant and wildlife assemblage that is currently not served in the restoration area and would improve the water quality of Mission Bay.

3.1.4.2.1.3 Re-Establishment/Wetland Restoration

The Project would convert beach and disturbed habitat to subtidal channels, mudflats, saltmarshes, transitional wetland, and coastal strand. The re-establishment would provide water quality improvements, topographic complexity, nutrient retention and transformation, sediment and toxicant trapping, and increased habitat and wildlife diversity while retaining some existing resources, such as substrates for terrestrial wildlife species.

The restoration area would be planted with native wetland species that are consistent with the hydrological environmental and are self-sustaining. This restoration effort would benefit a more diverse native plant and wildlife assemblage that is currently not served in the restoration area and improve the water quality of Mission Bay.

3.1.4.2.1.4 Enhancement

Approximately 0.15 acres of disturbed southern coastal salt marsh currently exists within the Project site and would be enhanced by converting lower-quality coastal salt marsh to higher-quality low salt marsh, mid salt marsh, high salt marsh, and transitional salt marsh. Accordingly, enhancement of this area would provide water quality improvements, topographic complexity, nutrient retention and transformation, sediment and pollutant trapping, and increased habitat and wildlife diversity while retaining some existing resources such as coastal salt marsh plant species and macroinvertebrate substrates.

3.2 ENVIRONMENTAL SETTING OF RESTORATION AREAS

The City of San Diego is the owner of the North Fiesta Island property. Land use within the subwatershed consists of single-family residential, with some multifamily residential, commercial, recreational and park, and natural land uses. Streets and a well-maintained stormwater conveyance system collect runoff from approximately 864 acres and convey the stormwater to Mission Bay under Interstate 5 to two pipe outfalls within the Cudahy Creek Wetland Project area. The catchment area that flows into Tecolote Creek is also located within this subwatershed. Tecolote Creek discharges into Mission Bay just north of Fiesta Island Road, south of Tecolote Shores park, and west of Fiesta Island.

3.3 RESTORATION SITE CHARACTERISTICS

3.3.1 TOPOGRAPHY AND BATHYMETRY

Topographic data was obtained from the U.S. Geological Survey 2014 Light Detection and Ranging survey, and bathymetry data was obtained from the Mission Bay Park 2013 Bathymetry and Eelgrass Inventory (Merkel 2013). The on-site elevation ranges from 0 to 23.6 feet (above sea level) on land and 0 (at sea level) to 6.5 feet (below sea level) under water (Figure 6, Topography).

3.3.2 HYDROLOGY

North Fiesta Island is within the San Diego watershed Hydrologic Unit Code 8 18070304, sub-watershed Mission Bay, Smiley Lagoon-Mission Bay Hydrologic Unit Code 12 180703041102 (Figure 7, Hydrologic Setting). The Project site abuts the open water of Mission Bay to the east and west, and disturbed land to the north and south. The restoration area receives water by Pacific Ocean tides and water from precipitation that flows overland to Mission Bay. The open water and adjacent shoreline are subject to tidal influence and the tidal flow patterns of Mission Bay.

Four pressure gauges were placed at sub-tidal locations to collect tide measurements as part of the Mission Bay Program Environmental Impact Report Hydrology Study (Moffat & Nichol 2019a). These measurements were used to assess the tidal behavior of Mission Bay at the Project site. No anomalous behavior of Mission Bay tides was identified in comparison with tidal measurements from the La Jolla, California, Station 9410230 (NOAA 2019). There is virtually no measurable difference between bay tides and those of the ocean (Appendix A).

3.3.2.1 Hydrologic Analysis

A past Water Quality Control Study (Tetra Tech 1983) identified that the water quality problem of Mission Bay largely stems from two issues:

- A nearly continuous input of pollutants from various point and nonpoint sources within the increasingly urbanized drainage areas inland from Mission Bay.
- Flushing and circulation conditions that are generally inadequate to transport pollutants out of Mission Bay. As a result, pollutants build up to undesirable levels.

Tidal hydraulics of the proposed Project design were analyzed to address the impacts to tidal inundation frequency, hydrodynamics, and residence times (Appendix A). This analysis of tidal hydraulics was necessary to define future tidal elevations and corresponding habitat evolution with as much precision as possible.

The average tide elevation range throughout Mission Bay, including the Project site, is 5.8 feet, and the larger spring tide elevation range is approximately 8 feet. There are no high or low tide lag times for the Project site compared to the ocean. The tide range is not restricted and penetrates the proposed salt marsh at North Fiesta Island better than most other coastal salt marshes on the open coast because of the two entrance channels, relatively short channel length, and the efficiently designed channel width and depth. This is a desirable condition for salt marsh restoration because it would facilitate the full range of habitat distribution (subtidal, mudflat, low marsh, mid marsh, high marsh, transitional wetland, and upland) within the Project site.

The peak flood and ebb velocities at the west side of the main subtidal channel are 0.19 feet per second (fps) and 0.21 fps, at the center are 0.05 fps and 0.06 fps, and at the east side are 0.10 fps and 0.11 fps, respectively. This is desirable because it demonstrates relatively low velocities that promote sustained water movement while not creating a safety hazard for people.

The North Fiesta Island design incorporates a tidal channel of appropriate depth and width to introduce the full tidal prism into the proposed restoration area to support diverse, self-sustaining tidal habitat types. In addition, the channel facilitates increased tidal exchange between Fiesta Bay and open waters east of Fiesta Island. The shortened tidal pathway through North Fiesta Island is expected to improve water quality in open waters near the proposed Cudahay Creek Wetlands (Leisure Cove), Tecolote Creek Wetlands, and adjacent open water areas.

An analysis of tidal mixing was performed to determine areas of Mission Bay where erosive tidal flow occurs (Moffatt & Nichol 2019). The study also revealed areas of Mission Bay where tidal mixing and water replacement is lacking or absent. The area known as the Northeast Inlet corresponding to

the east side of Fiesta Island is one where tidal circulation is limited. Water exchange within the area is very limited, requiring 27.1 days for complete water exchange (Moffatt & Nichol 2021). The limited tidal circulation in the Project area further compounds water quality issues and the need for water quality improvements.

The North Fiesta Island design incorporates a tidal channel of appropriate depth and width to introduce the full tidal prism into the proposed restoration area to support diverse, self-sustaining tidal habitat types. In addition, the channel facilitates increased tidal exchange between Fiesta Bay and open waters east of Fiesta Island. The shortened tidal pathway through North Fiesta Island is expected to improve water quality in open waters near the proposed Cudahay Creek Wetlands (Leisure Cove), Tecolote Creek Wetlands, and adjacent open water areas.

3.3.2.2 Sea-Level Rise

Sea-level rise would result in the migration of existing Mission Bay wetland habitats upward and/or in the landward direction because of the elevated tidal prism. Two sea-level rise projections (3.6 feet and 7.0 feet) were selected for Year 2100 that represent major thresholds for the Project. These thresholds represent the 17% probability and 0.5% probability scenarios and are driven by coastal flooding that is expected to increase (progress inland) with a 100-year storm event in conjunction with sea-level rise. Future habitat distribution compared to the original habitat design is significantly affected by sea-level rise. Future impacts from a sea-level rise of 3.6 feet and 7 feet are summarized below (see also Table 4 and Appendix A).

- **Sea-Level Rise of 3.6 feet.** Under this scenario, most of the Project site would be subject to tidal inundation during high tides after restoration. The restored salt marsh habitat would likely transform with less high- and mid-low marsh, and more mudflat, with subtidal habitat. Without raising the elevation of the site by filling or implementing adaptation measures, the site would effectively become mudflat with tidal channels. The exception would be the transitional wetlands that would become low marsh (Moffatt & Nichol 2021).
- **Sea Level Rise of 7.0 feet.** Under this scenario, the wetlands would be nearly all subtidal and mudflat habitat area, with some limited perimeter salt marsh on earthen slopes. Without raising the elevation of the site by filling or implementing adaptation measures, the site would effectively become mudflat with tidal channels (Appendix A).

Table 4.
Change to Habitat Areas with 3.6 and 7.0 Feet of Sea Level Rise

Proposed Habitat	Design Acreage	Sea-Level Rise – 3.6 Feet (acres)	Sea-Level Rise – 7.0 Feet (acres)
Subtidal	10.8	14.1	29.5
Mudflat	4.6	24.5	14.8
Low Saltmarsh	5.0	1.0	0.5
Mid Saltmarsh	9.3	2.1	1.2
High Saltmarsh	9.1	0.3	0.1
Transitional Wetland	2.5	1.6	0.5
Upland	3.4	1.1	0.5
Beach	5.4	5.4	3.0
Total Area	**50.1**	**50.1**	**50.1**

Source: North Fiesta Island Wetland Restoration Project Preliminary Engineering Report (Moffatt & Nichol 2025)

3.3.3 SOIL CONDITIONS

Soils within the restoration area are mapped as "Made" land for the areas above the water line, and "Lagoon Water" within the open water portions of the Project site (USDA 2021; Figure 8, Soils). Made land consists of smooth, level areas that have been filled with dredged soils from Mission Bay. The fertility is medium, the permeability is rapid, and the runoff is slow to moderate (NRCS 2021).

North Fiesta Island soils have been investigated through past geologic investigations. Compromised or contaminated soils have not been identified on the site. However, soils in North Fiesta Island have been characterized for grain size and they have a median sediment grain size (D_{50}) of 0.24 millimeters, representing fine sand. The soils were identified to have "high potential for liquefaction due to high groundwater … and hydraulic fills" (Bodhi Group 2018).

Cone penetration testing of North Fiesta Island was performed at a single location (Moffatt & Nichol 2021). The current extent of soil investigations on site is likely insufficient to fully describe the on-site material. Therefore, further geotechnical and chemical investigations may be required.

Refer to the Preliminary Engineering Report prepared for the Project for more information (Appendix A).

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4 RESTORATION ROLES AND RESPONSIBILITIES

This section describes who would be responsible for each implementation task and how the proposed restoration program would be accomplished.

4.1 RESPONSIBLE PARTIES

Applicant/Permittee

City of San Diego
Engineering and Capital Projects Department
8525 Gibbs Dr, Ste. 302
San Diego, California 92123

Parks and Recreation Department
9485 Aero Dr.,
San Diego, California 92123

Project Implementation Personnel

4.1.1 PERMITTEE/PROJECT MANAGER

The City of San Diego is the owner/permittee of the North Fiesta Island property. The City would be responsible for restoration installation and would be responsible for the successful implementation of the work described within this Plan. The City (or subsequent legal owners) would be financially responsible for implementation and management of the Project.

4.1.2 PROJECT BIOLOGIST

The City would select a qualified Project biologist who would review the environmental permits, documents, final Plan, and restoration construction documents, and help to ensure that all protective fencing, pre-work bird surveys, and any other required items are adequately performed prior to beginning restoration work.

The Project biologist would perform site monitoring during restoration implementation and throughout the 5-year maintenance and monitoring period. The Project biologist would prepare restoration annual reports with required biological data and submit them to the City and the regulatory agencies. The Project biologist would have a degree in biology, ecology, or related field, and be able to demonstrate experience with similar restoration projects in San Diego County. The Project biologist would possess at least 5 years of habitat restoration experience in Southern

California and meet all the requirements as listed in Bio Guidelines, Land Development Code, and Whitebook.

4.1.3 RESTORATION CONTRACTOR

The City would select a qualified restoration contractor to implement the restoration installation work and provide subsequent wetland restoration area maintenance. Installation and wetland restoration work would be performed by a contractor possessing a valid California landscape contractor's license (Class C-27) who has previous experience with native habitat restoration in San Diego County and who can demonstrate at least three successful similar restoration projects in Southern California. Implementation crews must be able to identify San Diego County native plants and common weed species and demonstrate knowledge of habitat restoration techniques.

The restoration contractor would be responsible for conformance to this Plan and regulatory agency permit requirements. The restoration contractor's responsibility for installation would continue until successful completion and final acceptance by the City and the Project biologist. The restoration contractor would not be released from contractual obligations for installation until written notification is received from the City that all required installation tasks as defined in the installation contract, final plans and specifications, this Plan, and Project permits have been successfully completed.

After initial installation and completion of implementation, the City would contract for 5 years of maintenance services performed by a qualified maintenance contractor that specializes in the maintenance/management of habitat restoration/natural lands. Maintenance work would be performed as indicated herein and per the Project biologist's recommendations. The City may choose to hire a maintenance contractor that is separate from the restoration contractor and may replace a contractor that fails to perform work satisfactorily.

4.1.4 SEED SUPPLIER

The seed supplier would be a qualified commercial native plant seed supplier having 2 years' experience collecting seed, experience collecting sources from within the San Diego area, and must have experience collecting seeds from native areas appropriate for this Project.

Conditions for seed collection would follow sound ecological restoration practices. The Project biologist may substitute plant species should the species listed in this Plan not be available at the time of collection or purchase. Seed collection would comply with all regulatory agency permits and requirements. The seed supplier would also meet all the requirements as listed in Biology Guidelines, Landscape Standards, and the Whitebook (City of San Diego 2021b).

4.2 PRELIMINARY DESIGN AND ENGINEERING

4.2.1 PROJECT COMPONENTS

The Project would include the restoration of approximately 44.54 acres consisting of subtidal channels, mudflats, low saltmarsh, mid saltmarsh, high saltmarsh, transitional wetland, upland and developed land within North Fiesta Island. Marsh vegetation would provide water quality treatment of stormwater and bay water and provide diverse wildlife habitat. Subtidal channels are proposed to convey flows from each end of the open waters of Mission Bay (direction) and overflow into the saltmarsh, providing a longer residence time for the incoming water to filter through the saltmarsh vegetation before re-entering Mission Bay.

Preliminary 30% design level construction drawings can be found in Appendix A. The drawings are currently in draft phase and are not finalized for construction but provide an understanding of the Project components and layout.

4.2.2 PRELIMINARY ACCESS

Land-based construction equipment would access the site from the Fiesta Island Causeway from East Mission Bay Drive. If water-based construction equipment is used, it could also be delivered over the Causeway or delivered over water from Mission Bay. Construction is anticipated to occur on dry land using conventional earthmoving equipment. This is due the existing site topography being relatively high above groundwater, the large quantity of material to be removed, and the limited time for removal due to nesting season restrictions (Appendix A).

4.2.3 PRELIMINARY PROJECT SCHEDULE

Environmental constraints of endangered bird nesting seasons require that certain elements of the overall Project be phased or timed. Nesting restrictions are imposed from February 15 through September 15 each year for the California least tern nesting area to the north, limiting excavation activities to 5.5 months each year.

The City may institute a beach area construction moratorium during which non-emergency construction activities cannot be scheduled. This includes the days preceding and immediately following the Memorial Day, Fourth of July, and Labor Day holidays. This may affect scheduling of the overall Project; however, it is anticipated that it would have minimal affect. Project construction should be planned around the construction moratorium and during the dry season of the year when rain events and discharges at the existing outfall should be at a minimum.

It is anticipated that the Project can be constructed within a total timeframe of 5.5 months if certain conditions are met: construction needs to be accomplished using conventional equipment, and the surplus soil needs to be staged at three designated stockpile areas on North Fiesta Island (Figure 2). If these two conditions are met, then the Project can be completed between sensitive and endangered bird nesting windows.

Bridge construction would require the entire period to complete, and bridges are assumed to be pre-cast concrete that can be hauled onto the site and assembled. As the restoration site is constructed, there would not be an opening from the channel to Mission Bay. Once all restoration and construction for North Fiesta Island is completed, each end of the main channel would be opened to allow waters of the bay to flow as designed. The construction schedule is shown in Appendix A.

5 SITE PREPARATION

Site preparation would be conducted under direction from the City and the Project biologist. Specific site preparation tasks are outlined below. Prior to site preparation, photo points would be identified, and pre-implementation photos taken to document site conditions prior to restoration implementation.

Prior to issuance of land development permits, including clearing, grubbing, grading, and/or construction permits, the Project applicant or its designee would provide written confirmation that a biological monitor, approved by the City, has been retained. To prevent disturbance to areas outside the limits of grading, all grading activities would be monitored by the Project biologist, including any clearing, grubbing, and/or grading activities within 100 feet of aquatic resources.

5.1 SITE PROTECTION MEASURES

Prior to the initiation of restoration activities, fencing and signage would be installed to delineate the work areas and prevent unauthorized impacts by the contractor during the installation process. Additionally, this fence would serve to discourage unauthorized pedestrian traffic from entering the wetland restoration area.

During the installation process, work would be monitored by the Project biologist to ensure compliance with the wetland restoration area boundaries. The Project biologist would also review the signage and fencing to verify that they are in good repair and functioning as intended. The Project biologist would make recommendations to the installation contractor if repairs, additions, or other modifications need to be made to the wetland restoration area protection fence.

During the 5-year maintenance and monitoring period, the wetland restoration area would be restricted from public access and would be delineated with temporary fencing and signage stating the nature of the work within the area and access restrictions.

5.2 PLANT SALVAGE

Because of the limited amount of native plant cover, existing native vegetation on site would be salvaged to the greatest extent practicable. Native plant species to be salvaged on site include special status species woolly seablite (California Rare Plant Rank 4.2, special status species Lewis' evening-primrose (California Rare Plant Rank of 3), and any other native marsh species that would be incidentally impacted by grading activity, such as pickleweed (*Salicornia pacifica*). Other plant species as identified by the Project biologist would be salvaged and reused on site. All native plants

intended for salvage would be kept on site in a location agreed upon by the Project biologist and the construction manager to prevent further damage during vegetation removal and site preparation.

5.3 VEGETATION REMOVAL

All vegetation remaining within the Project site after plant salvage would be removed using a small backhoe and/or excavator. Additionally, dead thatch, deadwood, and other organic litter would be removed from the site.

5.4 SOIL EXPORT AND TESTING

5.4.1 SOIL EXPORT

As discussed in Section 2.1.4.1.2, Project Impacts, the Project would have an anticipated surplus of 810,000 cubic yards of material. This soil would either be stockpiled or exported directly to other restoration projects within Mission Bay or both. Stockpiling can take place within the kelp drying and/or sand processing area on Fiesta Island.

Earthmoving equipment would be able to efficiently remove material from a stockpile area on Fiesta Island, transport it the relatively short distance to the Cudahy Creek Wetland Restoration Project site, and return for another load. This is the lowest cost option for material disposal/re-use (Moffatt & Nichol 2021). Approximately 58,000 cubic yards of soil would need to be imported for the Cudahy Creek Wetland Restoration Projects (Rick Engineering 2020).

5.4.2 SOIL TESTING AND TOPSOIL REPLACEMENT

In areas of topsoil placement, salvaged topsoil would be spread evenly in lifts no greater than 6 inches and blended with existing soils. All areas of soil work would be track walked or rolled to consolidate soils to achieve a compaction not exceeding 90% with a finished surface texture to resist erosion.

Additionally, the Project biologist/habitat restoration specialist would collect soil samples and send them to a soil lab for major constituent analysis. Should soils be found to be problematic for revegetation of the native species included in this Plan, appropriate soil amendments should be designated with sufficient lead time so that they can be incorporated into the revegetation materials (i.e., container plants and seed). Soil amendments may include agricultural gypsum, mycorrhizal inoculum, or other suitable amendments as recommended by the Project biologist/habitat restoration specialist.

5.5 GRADING PLAN

Following vegetation removal, the overall site would be graded to create stratified elevations for the subtidal, mudflats, low saltmarsh, mid saltmarsh, high saltmarsh, transitional area, and uplands. Grading would be designed to allow the main subtidal channel and secondary subtidal water level elevations to rise with tide levels and allow bay water to inundate the saltmarsh wetland areas during flood tide conditions. During ebb tide conditions, the saltmarsh areas would drain into the subtidal channels and be carried out through the connections back into Mission Bay. This process of inundation and draining is necessary for the health of the saltmarsh areas and provides water quality benefits by circulating and filtering the water through the wetland vegetation prior to being returned to Mission Bay.

Contour grading would include micro topographic variances, as shown on the preliminary construction drawings (Appendix A. The grading is described in further detail in the following subsections. A preliminary set of construction drawings are attached in Appendix A, and the Preliminary Engineering Report is attached in Appendix A. The final grade would be reviewed and approved by the Project biologist prior to removing grading equipment from the site. Exact elevations would be determined based on depth to saturated soil and groundwater. Ideal elevation and proposed (estimated) elevation ranges are provided in Table 5.

Table 5.
Salt Marsh Habitats, Planting Palette, and Elevations

Habitat and Landform Designations	Planting Palette	Ideal Elevation Range (Feet, NGVD 29)	Proposed (Estimated) Elevations (Feet, NGVD 29)
Upland	Coastal Sage Scrub Plant Palette	N/A	6.4 to 18
Transitional	Transitional Wetland Plant Palette	4.8 to 6.8[2,3]	4.4 to 6.4
High Marsh	High Saltmarsh Plant Palette	2.8 to 4.8[2,3]	3.8 to 4.4
Mid Marsh	Mid Saltmarsh Plant Palette	1.3 to 3.0 [2,3]	2.0 to 3.8
Low Marsh	Low Saltmarsh Plant Palette	0.3 to 2.3[2,3]	1.2 to 2.0
Mudflat	No Planting	-2.7 to 0.3[2,3]	-3.8 to 1.2
Subtidal	No Planting/Eelgrass	Below -2.7[2]	-5.0 to -3.8[2]

Notes: N/A = not applicable

1 Not a part of restoration area, would be restored by San Diego Parks and Recreation.

2 Source: Everest 2018.

3 Tidal statistics derived from monitoring at the site using tide gages over a 1-year period (Moffatt & Nichol 2019).

5.5.1 SUBTIDAL

Approximately 8.60 acres of subtidal channels that range from negative 6 feet to negative 3.7 feet in elevation. The design geometry of the main (primary) subtidal channel includes a bottom width of approximately 30 feet at an elevation of -6 feet, which is lower than the lowest tide (lowest tide is -5.06 feet based on San Diego Regional Standard Drawing M-12). The side slopes of the subtidal channels are proposed at 3:1 (horizontal to vertical) (Appendix A).

The main subtidal channel at the southern end of the project running east west is approximately 800 feet in length. There is a secondary channel that branches off this main channel running north-south approximately 1,725 feet in length. This secondary channel has three tertiary channels that branch off on the west side of the secondary channel and two tertiary channels that branch off on the east side. Right. Starting from the southern tip of the secondary channel, the first tertiary cannel branches to the east and runs approximately 350 feet in a north-west direction parallel to the secondary channel. The next tertiary channel branches to the west and runs approximately 500 feet in a north-west direction parallel to the secondary channel. The third tertiary channel branches to the east and runs approximately 400 feet in a north-west direction parallel to the secondary channel. The fourth tertiary channel branches to the west and runs approximately 300 feet in a north-west direction parallel to the secondary channel. The fifth and northernmost tertiary channel branhces to the east and runs approximately 300 feet in a north-west direction parallel to the secondary channel (Figure 3 and Appendix A).

An Eelgrass and Oyster Restoration Plan is currently being prepared for the Improvement Zone and would inform all eelgrass and oyster restoration that would take place this Project.

5.5.2 MUDFLATS

Intertidal mudflats are situated between the subtidal channels and the saltmarsh habitats. Approximately 4.43 acres of mudflats occur throughout the restoration area along the edges of the proposed subtidal channels as the elevation rises. The proposed elevation of the mudflats ranges from approximately -3.8 feet to approximately 1.2 feet (Appendix A).

5.5.3 LOW MARSH

Re-establishment of approximately 5.23 acres of low-level saltmarsh would take place within the disturbed habitat along the edges of the proposed mudflats and beach as the elevation rises.. The proposed elevation of the low marsh varies from approximately 1.2 feet to approximately 2.0 feet. The slight variation in elevations is proposed to promote drainage of the area during periods between inundations (Appendix A).

5.5.4 MID MARSH

Re-establishment of approximately 9.87 acres of mid-level saltmarsh would take place within the disturbed habitat along the edges of the proposed low marsh as the elevation rises. The proposed elevation of the mid marsh varies from approximately 2.0 feet to approximately 3.8 feet (Appendix A).

5.5.5 HIGH MARSH

Re-establishment of approximately 7.19 acres of high-level saltmarsh would take place within the disturbed habitat along the edges of the proposed mid marsh as the elevation rises. The proposed elevation of the high marsh varies from approximately 3.8 feet to approximately 4.4 feet (Appendix A).

5.5.6 TRANSITIONAL

Re-establishment of approximately 4.50 acres, would take places within the disturbed habitat along the edges of the proposed high marsh as the elevation rises.. The proposed elevation of the transitional saltmarsh varies from approximately 4.4 feet to approximately 6.4 feet (Appendix A).

5.5.7 UPLAND

Approximately 3.68 acres of upland are located within the restoration area. Two small upland areas are located in the central portion of the restoration area within the transitional wetland just north of the second tertiary channel on the west side of the secondary channel. Additional upland areas are located along the east edge of the site and below the main channel on the southern side of the site. The proposed elevation varies from approximately 6.4 feet to approximately 18 feet (Appendix A).

5.5.8 DEVELOPED LAND

Approximately 1.05 acres of developed land consisting of a proposed road and picnic feature is located along the east edge of the site above within the upland area. The proposed elevation varies from approximately 6.4 feet to approximately 18 feet (Appendix A).

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6 IRRIGATION SOURCE

Long term, the wetland restoration area would receive hydrologic inputs from tidal and surface waters flowing into the marsh from the storm drains. The initial need for temporary irrigation would be evaluated and determined upon review of site hydrology after site grading and establishment of the stormwater basin is complete. A temporary irrigation system may be installed within the upper portion of the project site near the outfall of Cudahy Creek and along the transitional perimeter of the restoration site that does not receive regular tidal inundation and/or in the event there is insufficient rainfall during the particular winter/spring wet season to support plantings and developing native vegetation communities.

During the 5-year maintenance and monitoring period for the wetland restoration area, a temporary above-ground irrigation system may be installed to water the plant installation locations and would be designed to supplement natural rainfall and tidal fluctuations to ensure survival of the container plantings. If a permanent water source is not available at the time the restoration plantings need to be implemented, then the irrigation system would be designed to be supplied by a water truck connected to an existing water source and water would be pumped onto the wetland restoration area and/or the site would be watered with trucked in water and watering by hose.

All irrigation would be installed by the restoration contractor in accordance with this Plan and the final restoration construction documents. The irrigation system would be designed with above-ground components to facilitate removal once the system is decommissioned. Water sources and points of connection would be from on-site locations and use potable water.

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7 PLANTING PLAN

The wetland restoration area would be revegetated with native species that are appropriate to the site context and restoration goals. The intent of these plant palettes is to create a diverse assemblage of native species that would provide appropriate functions and services. The plant palettes have been designed to include a mixture of species adapted to the wetland restoration area's hydrology. Plants with different germination responses, wetland affinities, and growth forms have been chosen to provide plant growth under a wide range of conditions that may occur in the wetland restoration area. Any eelgrass and/or oyster bag installation and an Eelgrass Oyster Restoration Plan is in progress which would inform the restoration of these species. Therefore, eelgrass and oyster bed restoration would not be discussed within this Plan.

7.1 CONTAINER PLANT INSTALLATION

Implementation of this Plan must be coordinated with the restoration contractor, applicant, and Project biologist. If a grading contractor has been retained for any contour grading within the Project site, then this Plan must also be coordinated with the grading contractor. The wetland restoration area would be vegetated with native species that are appropriate to the saltmarsh vegetation community context and restoration goals. The target habitats to be established are low and mid saltmarsh with a transitional saltmarsh in between. Low saltmarsh dominant species would include Parish's glasswort (*Arthrocnemum subterminale*), pickleweed, and saltwort (*Batis maritima*). Mid saltmarsh dominant species would include alkali heath (*Frankenia salina*), Parish's glasswort, pickleweed, saltgrass (*Distichlis spicata*), saltwort, and woolly seablite, a special status species. High saltmarsh dominant species would include alkali heath, Parish's glasswort, pickleweed, saltgrass, saltwort, and woolly seablite, a special status species. The transitional area's dominant species would include alkali heath, Parish's glasswort, pickleweed, saltgrass, saltwort, and woolly seablite, a special status species. The upland dominant species would include alkali heath, Parish's glasswort, pickleweed, saltgrass, saltwort, and Lewis' evening-primrose, a special status species.

The planting palettes for low saltmarsh, mid saltmarsh, high saltmarsh, transitional wetland, and coastal strand (upland) are provided in Tables 6 through 10. The intent of these plant palettes is to create a diverse assemblage of native species that would increase the area's functions and services, such as water quality and habitat value. The optimal timing for plant installation and seed application is in the fall after the first rain. However, for this project planting and seed installation would take place once the contour grading is completed. Container plants and seed mixes would be sourced from locations as close as possible to the wetland restoration area, at a minimum, from within the same wetland habitat type. Some species may not be available at the time of initial installation. If species are not available, they would be obtained when available and applied at a later

date under the direction of the Project biologist. Alternatively, a species may be substituted for unavailable species with the direction and approval of the Project Biologist and the City.

Table 6
North Fiesta Island 5.23-Acre Low Saltmarsh Container Plant Palette

Scientific Name	Common Name	Size	Average Spacing (feet on center)	Quantity (per acre)[1]	Quantity (total)[1]
Arthrocnemum subterminale	Parish's pickleweed	Rose pot/flats	4	1,838	9,613
Batis maritima	saltwort	Rose pot/flats	4	275	1,438
Jaumea carnosa	fleshy Jaumea	Rose pot/flats	4	185	968
Salicornia pacifica	Pacific pickleweed	Rose pot/flats	4	240	1,255
Spartina foliosa	California cord grass	Rose pot/flats	4	185	968
			Total	**2,723**	**14,241**

[1] The low saltmarsh species palette will be adapted during installation based on nursery availability and project budget.

Table 7
North Fiesta Island 9.87-Acre Mid Saltmarsh Container Plant Palette

Scientific Name	Common Name	Size	Average Spacing (feet on center)	Quantity (per acre)[2]	Quantity (total)[2]
Arthrocnemum subterminale	Parish's pickleweed	Rose pot/flats	4	1,449	1,4302
Atriplex leucophylla	beach saltbush	Rose pot/flats	3	118	1,165
Batis maritima	saltwort	Rose pot/flats	4	190	1,875
Distichlis spicata	salt grass	Rose pot/flats	4	190	1,875
Frankenia salina	alkali heath	Rose pot/flats	4	252	2,487
Jaumea carnosa	fleshy Jaumea	Rose pot/flats	3	228	2,250
Salicornia pacifica	Pacific pickleweed	Rose pot/flats	4	190	1,875
Spartina foliosa	California cord grass	Rose pot/flats	4	143	1,411
Suaeda taxifolia	woolly sea-blite	Rose pot/flats	3	101	997

Table 7
North Fiesta Island 9.87-Acre Mid Saltmarsh Container Plant Palette

Scientific Name	Common Name	Size	Average Spacing (feet on center)	Quantity (per acre)[2]	Quantity (total)[2]
Triglochin concinna	seaside arrow grass	Rose pot/flats	3	101	997
			Total	**2,963**	**29,245**

[1] The mid saltmarsh species palette will be adapted during installation based on nursery availability and project budget.

Table 8
North Fiesta Island 7.19-Acre High Saltmarsh Container Plant Palette

Scientific Name	Common Name	Size	Average Spacing (feet on center)	Quantity (per acre)[1]	Quantity (total)[1]
Abronia maritima	red sand verbena	1 gallon	4	271	1,948
Abronia umbellata	beach sand verbena	1 gallon	4	271	1,948
Arthrocnemum subterminale	Parish's pickleweed	Rose pot/flats	4	819	5,889
Atriplex leucophylla	beach saltbush	Rose pot/flats	5	174	1,251
Distichlis spicata	salt grass	Rose pot/flats	4	271	1,948
Distichlis littoralis	shore grass	Rose pot/flats	4	133	956
Frankenia salina	alkali heath	Rose pot/flats	4	271	1,948
Jaumea carnosa	fleshy Jaumea	Rose pot/flats	4	138	992
Limonium californicum	western marsh-rosemary	Rose pot/flats	5	88	633
Suaeda taxifolia[1]	woolly sea-blite	Rose pot/flats	4	138	992
			Total	**2,575**	**18,514**

[1] The high saltmarsh species palette will be adapted during installation based on nursery availability and project budget.

Table 9
North Fiesta Island 4.50-Acre Transitional Wetland Container Plant Palette

Scientific Name	Common Name	Size	Average Spacing (feet on center)	Quantity (per acre)[1]	Quantity (total)[1]
Abronia maritima	red sand verbena	1 gallon	4	272	1,224
Abronia umbellata	beach sand verbena	1 gallon	4	272	1,224
Ambrosia chamissonis	beach-bur	1 gallon	4	134	603
Arthrocnemum subterminale	Parish's pickleweed	Rose pot/flats	4	411	1,850
Atriplex leucophylla	beach saltbush	1 gallon	4	246	1,107
Caminssoniopsis cheiranthifolia	beach sun cup	1 gallon	4	411	1,850
Distichlis spicata	salt grass	Rose pot/flats	4	139	626
Distichlis littoralis	shore grass	Rose pot/flats	3	246	1,107
Frankenia salina	alkali heath	Rose pot/flats	4	277	1,247
Jaumea carnosa	fleshy Jaumea	Rose pot/flats	4	57	257
Limonium californicum	western marsh-rosemary	Rose pot/flats	4	139	626
Oenothera californica	California evening primrose	1 gallon	4	139	626
Peritoma arborea var. *arborea*	coast bladderpod	1 gallon	4	139	626
Suaeda taxifolia	woolly sea-blite	1 gallon	4	57	257
			Total	**2,938**	**13,221**

[1] The transitional wetland species palette will be adapted during installation based on nursery availability and project budget.

Table 10
North Fiesta Island 3.68-Acre Upland Container Plant Palette

Container Plants					
Scientific Name	*Common Name*	*Container Size*	*Spacing (feet on center)*	*Quantity (per acre)[1]*	*Quantity (total)[1]*
Artemisia californica	coastal sagebush	1 gallon	5	348	1282

Table 10
North Fiesta Island 3.68-Acre Upland Container Plant Palette

Container Plants					
Scientific Name	*Common Name*	*Container Size*	*Spacing (feet on center)*	*Quantity (per acre)*[1]	*Quantity (total)*[1]
Cneoridium dumosum	bush-rue/spice bush	1 gallon	5	87	321
Encelia californica	coastal sunflower	1 gallon	5	261	962
Eriogonum parvifolium	seacliff buckwheat	1 gallon	5	348	1,282
Isocoma menziesii	coastal goldenbush	1 gallon	5	261	962
Salvia apiana	white sage	1 gallon	5	174	641
Salvia mellifera	black sage	1 gallon	5	261	962
			Total	**1,742**	**6,412**

[1] The upland species palette will be adapted during installation based on nursery availability and project budget.

All container plants would be checked for viability and general health upon arrival at the restoration area by the Project biologist. Plant materials not meeting acceptable standards of health as determined visually by the Project biologist would be rejected. Reasons for rejection of plant material may include being root-bound in the container, damaged foliage or stalks, diminutive stature, or signs of disease or pests.

Plant species and quantities would be confirmed by the Project biologist after delivery. Container plants would be laid out by the restoration contractor, and their placement verified and adjusted by the Project biologist.

Planting design and container plant layout would be randomly patterned (as opposed to rows) to create a natural patchiness that is typical within the target plant community. The restoration contractor would lay out container plants in groupings by species, ranging from three to six plants per grouping. Plant species that require more water would go into the areas that are wetter and are located closer to the water table, and plant species that require less water would be placed in drier areas located farther from the water table. The Project biologist would inspect the locations and adjust placement of groupings, if necessary.

Standard planting procedures would be employed for installing container plants. Holes would be approximately twice the width of the rootball of the plant and the same depth. If insufficient soil moisture is present, holes would be filled with water and allowed to drain immediately prior to planting. Container plants would be installed so that the rootball is below grade with the crown, 1 inch above grade. Plants would be thoroughly watered to settle backfill around the plant rootball.

7.2 NATIVE SEED APPLICATION

The saltmarsh and upland seed mixes shown in Tables 11 through 13 would be applied after initial container planting is complete. Labels for each seed delivered to the wetland restoration area would be inspected and approved by the Project biologist prior to mixing and application. Seed application would consist of hand broadcasting and raking into the soil. If some species are not available at the time of seeding, they may be acquired when available and hand broadcast at a later date.

Table 11
North Fiesta Island Saltmarsh Seed Mix

Scientific Name	Common Name	Rate (pounds per acre)	Minimum Percent Purity/ Germination[1]	Pure Live Seed (square foot)
Anthrocnemum subterminale	Parish's pickleweed	4	TBD[2]	10[2]
Atriplex leucophylla	beach saltbush	1	80/40	0.54
Batis maritima	saltwort	2	TBD[2]	10[2]
Cressa truxillensis	alkali weed	2	10/70	0.16
Distichlis spicata	salt grass	2	80/80	18.90
Frankenia salina	alkali heath	3	3/70	73.25
Jaumea carnosa	fleshy Jaumea	2	TBD[2]	10[2]
Salicornia pacifica	Pacific pickleweed	3	TBD[2]	10[2]
Spartina foliosa	California cord grass	1	TBD[2]	10[2]
Suaeda taxifolia	woolly sea-blite	1	30/20	2.96
Triglochin concinna	seaside arrow grass	1	TBD[2]	10[2]
Total Pounds per Acre		**21.0**	**N/A**	**155.81**

Note: TBD = to be determined

1 Seed purity and germination can vary across collections. The purity and germination rates shown are typical of each species.

2 Species are not currently available. Seed to be collected and tested to obtain minimum percent purity/germination. This information would be provided in the As-built Report.

Table 12
North Fiesta Island Transitional Wetland Seed Mix

Scientific Name	Common Name	Rate (pounds per acre)	Minimum Percent Purity/ Germination[1]	Pure Live Seed (square foot)
Abronia umbellata	beach sand verbena	1	75/20	0.06
Ambrosia chamissonis	beach-bur	1	90/55	0.45
Arthrocnemum subterminale	Parish's pickleweed	1	TBD[2]	10[2]
Atriplex leucophylla	beach saltbush	4	80/40	2.16
Caminssoniopsis cheiranthifolia	beach sun cup	2	95/90	95.82
Cressa truxillensis	alkali weed	1	10/70	0.08
Distichlis spicata	salt grass	2	80/80	18.90
Distichlis littoralis	shore grass	2	TBD[2]	10[2]
Frankenia salina	alkali heath	2	3/70	48.83
Jaumea carnosa	fleshy Jaumea	2	TBD[2]	10[2]
Limonium californicum	western marsh-rosemary	2	60/30	3.06
Oeneothera clifofornica	California evening primrose	1	TBD[2]	10[2]
Peritoma arborea var. *arborea*	coast bladderpod	1	98/45	0.04
Salicornia pacifica	Pacific pickleweed	1	TBD[2]	10[2]
Spartina foliosa	California cord grass	2	TBD[2]	10[2]
Suaeda taxifolia	woolly sea-blite	1	30/20	2.96
Total Pounds per Acre		**26**	**N/A**	**222.36**

[1] Seed purity and germination can vary across collections. The purity and germination rates shown are typical of each species.

[2] Species are not currently available. Seed to be collected and tested to obtain minimum percent purity/germination. This information would be provided in the As-built Report.

Table 13
North Fiesta Island Upland Seed Mix

Scientific Name	Common Name	Rate (pounds per acre)	Minimum Percent Purity/ Germination[1]	Live Seed per Square Foot
Artemisia californica	coastal sagebrush	4	15/60	12.63

Table 13
North Fiesta Island Upland Seed Mix

Scientific Name	Common Name	Rate (pounds per acre)	Minimum Percent Purity/ Germination[1]	Live Seed per Square Foot
Bromus carinatus	California brome	2	95/80	1.95
Encelia californica	coastal sunflower	4	40/60	1.72
Eriogonum parvifolium	seacliff buckwheat	2	60/30	2.30
Eriophyllum confertiflorum	golden yarrow	3	30/70	15.78
Eschscholzia californica	California poppy	3	98/80	5.85
Isocoma menziesii	coast goldenbush	2	40/30	2.75
Lupinus succulentus	arroyo lupine	3	98/85	0.41
Phacelia parryi	Parry's phacelia	2	95/80	44.08
Salvia mellifera	black sage	3	70/50	4.78
Stipa lepida	foothill needle grass	2	90/60	6.19
Total Pounds per Acre		**30**	**N/A**	**98.44**

Note: TBD = to be determined

[1] Seed purity and germination can vary across collections. The purity and germination rates shown are typical of each species.

All seeds would be clearly labeled showing type of seed, test date, the name of the supplier, and percentages of the following: pure seed, crop seed, inert matter, weed seed, noxious weeds, and total germination content. All material would be delivered to the wetland restoration area in original, unopened containers bearing the manufacturer's guaranteed analysis. All seed mixes would be stored in a dark, cool place and not be allowed to become damp.

Installation from October to the end of December is ideal for allowing establishment during the cooler and wetter time of the year. However, seed installation timing may be modified as directed by the Project biologist to avoid loss in storm flow events, or to take advantage of predicted rain events.

7.3 IRRIGATION

The goal of irrigation is to create native, self-sustaining plant communities. All temporary irrigation would be carried out by the restoration contractor under direction of the project biologist and determined in subsequent restoration plans. Irrigation frequency and duration would be dependent on weather and plant conditions at the time of restoration project implementation. During typical summer seasons any anytime the weather is hot and dry for an extended period (a month or more), irrigation would be utilized three times per week for 30 minutes through year 3. During the fall and

spring, Irrigation would be utilized twice a week for 30 minutes through year 3. During a very dry rainy season (typically November through March), irrigation would be utilized three times per week for 30 minutes. During a typical rainy season, the irrigation would not be used unless the plants start to show stress, and then irrigation would be utilized in coordination with the biologist. The restoration area would be non-irrigated for at least 2 years before the end of the 5-year maintenance and monitoring period. Habitat enhancement areas are not anticipated to be irrigated.

7.4 EROSION CONTROL BEST MANAGEMENT PRACTICES

Best management practices (BMPs) are schedules of activities, prohibitions of practices, general good housekeeping practices, pollution prevention practices, educational practices, maintenance procedures, and other management practices designed to prevent or reduce, to the maximum extent practicable the discharge of pollutants directly or indirectly into receiving waters. It is the responsibility of the property owner or his/her designee (restoration contractor and Project biologist) to select, install, and maintain appropriate construction BMPs. BMPs are used to reduce the mobilization and transport of sediments from the wetland restoration area during initial implementation and during the maintenance and monitoring period. Suitable BMPs would be installed based on site conditions in accordance with most current City standards. Erosion control notes would be provided and/or a Water Pollution Control Plan would be prepared based on the document approval requirements.

7.5 WEED CONTROL

The restoration contractor would cut and/or control existing non-native vegetation. Initial removal of plant species for site preparation would take place before any soil disturbances. To the maximum extent practicable, this Project should begin in the fall after the bird breeding season. Should any grading, grubbing, or removal of habitat take place during the breeding season, then a biological monitor would be required to ensure that impacts to nesting birds do not occur as a result of construction activities. As part of site preparation, dead thatch, deadwood, and other organic litter would be removed. It is assumed that there would not be any germination or growth of herbaceous weed species, but if there is, then weed control (hand pulling, mowing, or herbicide) would be conducted.

Table 14 shows potential non-native plant species that would be targeted during maintenance, as well as potential methods for removal and control.

Table 14
Weed Control and Treatment for Target Non-Native Plant Species

Weed Species		Potential Control Methods				
Scientific Name	*Common Name*	*De-Thatch*	*Herbicide*	*Hand Pull*	*Weed Whip/ Mowing*	*Cut and Treat*
Atriplex semibaccata	Australian saltbush	X	X	X	X	
Avena barbata	slender oat grass	X	X	X	X	
Avena fatua	wild oat	X	X	X	X	
Brassica nigra	black mustard	X	X	X	X	
Bromus hordeaceus	softchess brome	X	X	X	X	
Bromus madritensis	compact brome	X	X	X	X	
Bromus rubens	red brome					
Cakile maritima	European sea rocket		X	X	X	
Carpobrotus chilensis	sea fig	X	X	X	X	
Cortaderia selloana	pampas grass		X		X	X
Cynodon dactylon	Bermuda grass	X	X	X	X	
Dittrichia graveolens	stinkwort			X		X
Emex spinosa	Devil's thorn		X	X	X	
Erodium botrys	broad leaf filaree	X	X	X	X	
Erodium cicutarium	stork's bill filaree	X	X	X	X	
Festuca perennis	Italian rye grass	X	X	X	X	
Helminthotheca echioides	bristly ox-tongue	X	X	X	X	
Lactuca serriola	prickly lettuce	X	X	X	X	
Mesembryanthemum crystallinum	crystalline ice plant	X	X	X	X	
Mesembryanthemum nodiflorum	slender-leaf ice plant	X	X	X		X
Nicotiana glauca	tree tobacco	X	X	X	X	
Parapholis incurva	sickle grass	X	X	X	X	
Plantago coronopus	cut leaf plantain	X	X	X	X	
Polypogon monspeliensis	rabbitsfoot grass	X	X	X	X	
Raphanus sativus	wild radish	X	X	X	X	
Rumex crispus	curly dock	X	X	X	X	
Salsola tragus	Russian thistle	X	X	X	X	

Table 14
Weed Control and Treatment for Target Non-Native Plant Species

Weed Species		Potential Control Methods				
Scientific Name	*Common Name*	*De-Thatch*	*Herbicide*	*Hand Pull*	*Weed Whip/ Mowing*	*Cut and Treat*
Sonchus asper	spiny sowthistle	X	X	X	X	
Tamarix ramosissima	tamarisk		X	X		X
Cakile maritima	European sea rocket					
Emex spinosa	devil's thorn					

If weed seedlings are detected before planting and seeding occurs, the restoration contractor would remove all weeds. Areas to be seeded would be completely free of weeds and have only bare soil exposed at the time of seeding. Weed control would include hand-pulling of weeds, use of hand tools and/or weed whips, and/or foliar treatments of appropriate herbicides as determined by the Project biologist. Specific herbicide application rates and methods would be based on manufacturer specifications and would follow the general guidelines summarized below:

- Application methods would follow manufacturer specifications regarding application and safety procedures. Herbicide application would comply with state and local regulations. All application tasks would be performed by or under supervision of a licensed applicator with a Pest Control Business License issued by the State of California Department of Parks and Recreation and registered with the County Agricultural Commissioner.
- Chemical herbicides must be approved for use within wetland areas.
- Herbicide application would consist of spot applications to individual plants where weed coverage is sparse and broadcast applications where cover is dense. Applications would be uniform and complete. Contact with native species must be avoided; in the event of gusty winds or winds in excess of 5 miles per hour, application work would be temporarily discontinued to protect applicators and adjacent natural resources. Treatments would also be temporarily discontinued in the event of rainfall because rainfall reduces the effectiveness of the herbicide.
- Sprayed vegetation would be left undisturbed for 7 days to allow the herbicide to be distributed throughout the entire plant. Visible effects of herbicide application consist of wilted foliage, brown foliage, and disintegrated root material.
- Excessive dead weed materials would be removed from the soil surface and disposed of.

7.6 AVOIDANCE AND MINIMIZATION MEASURES

Temporary fencing with silt barriers would be required at the limits of work for the wetland restoration area, including around the diversion ditch, staging areas, and access routes to prevent inadvertent impacts to areas outside of the wetland restoration footprint.

Impacts from fugitive dust that may occur during filling and grading activities for the berm and restoration area would be avoided to the maximum extent practicable and minimized through watering and other appropriate measures.

The Project biologist would be on site to oversee installation of temporary fencing and any grading within 100 feet of existing waters of the United States to ensure permit compliance and to educate contractors on biological resources associated with the Project.

Equipment would be checked for leaks prior to operation and repaired as necessary. A spill kit for each piece of construction equipment would be on site and must be used in the event of a spill.

7.7 Fencing and Signage

Perimeter fencing is proposed for this Project to restrict access and allow the site's vegetative time to develop and mature post-installation. The fencing would reduce the risk of damage to the saltmarsh caused by foot traffic, animals, and unauthorized vehicular traffic. A 6-foot-high chain-link fence is assumed for this Project, although other exclusion fence types may be explored (e.g. split-rail); however, in accordance with the Mission Bay Park Master Plan Update, fences would not exceed 7 feet tall (City of San Diego 2002). The existing chain-link fence that presently traverses the site would be removed during construction, and a new one would be installed along the perimeter of the restored wetlands. Gates would be included to allow authorized access for monitoring and maintenance, and tours if desired.

Signage would be installed on the fence at the east and west ends of all four corners of the Project site, for a total of eight signs. The signs would include language identifying the site as a habitat restoration project, and that trespassing and access from unauthorized personnel are prohibited beyond that point. In accordance with the Mission Bay Park Master Plan Update, regulatory signs should look special to Mission Bay and be mounted on poles and bases particular to Mission Bay Park (City of San Diego 2002).

8 MAINTENANCE PROGRAM

Maintenance activities would begin upon completion and approval of installation work. The restoration contractor's maintenance activities would be performed as indicated herein and as necessary to meet the established performance standards.

Trash and debris would be removed from the restoration area regularly during the 120-day PEP.

8.1 120-DAY PLANT ESTABLISHMENT PERIOD

During the first 120 days following completion of Project installation, the restoration contractor would be responsible for the health and mortality of the installed plant material. The Project biologist would visit the wetland restoration area at 30, 60, 90, and 120 days during this plant establishment period (PEP). Any plant disease, insect infestations, or herbivory would be remedied by the restoration contractor in consultation with the Project biologist/habitat restoration specialist and Project owner/proponent. If it is determined that protective plant cages or other protective measures are necessary, the Project owner/proponent would coordinate with the Project biologist/habitat restoration specialist and restoration contractor to find the most efficient and economical solution.

At the 90-day visit, the Project biologist would observe site conditions and seed germination and would provide a punch-list of replacement plants for the restoration contractor. Generally, plants would be recommended for in-kind replacement; however, the Project biologist may recommend alternative species if it is suspected that unsuitable growing conditions caused mortality.

Plants noted for replacement would be installed prior to the 120-day walk-through with the Project biologist. During the 120-day PEP, the restoration contractor is responsible for guaranteeing that the installed plant material would have a 100% survival rate. As part of the PEP, the contractor who performs the installation is contractually obligated to guarantee their workmanship and perform remedial measures to fix any observed problems before the 120-day PEP is considered complete and the Project transitions into the remainder of the 5-year maintenance and monitoring period. The following criteria must be met for the 120-day PEP to be considered successful:

1. Areas would be relatively free of weeds (California Invasive Plant Council rated species at 0% and less that 10% cover of all other weed species).
2. Areas free of debris.
3. No erosion or trash.
4. 100% survivorship of container plants.

A PEP maintenance schedule is shown in Table 15.

Table 15
Plant Establishment Period Maintenance Schedule

Work Task	1–30 Days	31–60 Days	61–90 Days	91–120 Days
Weed abatement	As-needed dependent on biological monitoring findings	As-needed dependent on biological monitoring findings	As-needed dependent on biological monitoring findings	As-needed dependent on biological monitoring findings
Plant replacement	As-needed dependent on biological monitoring findings	As-needed dependent on biological monitoring findings	As-needed dependent on biological monitoring findings	As-needed dependent on biological monitoring findings
Supplemental water	Once	Once	Once	Once
Erosion control	Once	Once	Once	Once
Non-weed pest control	Once	Once	Once	Once
Site cleanup and maintenance	Once	Once	Once	Once

8.2 MAINTENANCE GUIDELINES

Following installation, site visits would be conducted monthly during Year 1 of the restoration and monitoring program. During Years 2 and 3 site visits would be conducted monthly, December through April, and quarterly thereafter. During Years 4 and 5, site visits/monitoring would be conducted quarterly. More frequent monitoring would be conducted as needed to meet the performance standards indicated herein. A schedule is shown in Table 16.

Table 16
Maintenance Schedule

Task[1]	Year 1	Year 2	Year 3	Year 4	Year 5
Weed and Pest Control[2]	Monthly	Monthly (Dec–April); quarterly thereafter	Monthly (Dec–April); quarterly thereafter	Quarterly	Quarterly
Plant	Annually,	Annually,	Annually,	As needed;	As needed;

Table 16
Maintenance Schedule

Task[1]	Year 1	Year 2	Year 3	Year 4	Year 5
Replacement[3]	Oct–Dec	Oct–Dec	Oct–Dec	Oct–Dec	Oct–Dec
Supplemental Water[4]	As needed	As needed	As needed	As needed	As needed
General Site Maintenance	Monthly	Monthly (Dec–April); quarterly thereafter	Monthly (Dec–April); quarterly thereafter	Quarterly	Quarterly
Erosion Control and Sedimentation	Monthly	Monthly (Dec–April); quarterly thereafter	Monthly (Dec–April); quarterly thereafter	Quarterly	Quarterly
Trash Removal	Monthly	Monthly (Dec–April); quarterly thereafter	Monthly (Dec–April); quarterly thereafter	Quarterly	Quarterly
Fencing and Signage Maintenance	Monthly	Monthly (Dec–April); quarterly thereafter	Monthly (Dec–April); quarterly thereafter	Quarterly	Quarterly

Notes:

1 Maintenance task schedule and frequency would be adjusted, as appropriate, depending on site conditions and in coordination with the Project biologist. It is anticipated that more-intensive maintenance would occur during the first few years of the Project, and taper down as the Project approaches Year 5. Should any construction work be required to bring the wetland restoration area back to performance standards, construction work would take place outside of the City of San Diego's Beach Area Construction Moratorium (see Section 3.3.3).

2 Any maintenance performed during the bird nesting season (March 1 through September 15) would be conducted under direction of the Project biologist.

3 Should extensive planting be required in Years 4 or 5, even due to unforeseen circumstances, the restoration and monitoring program may be required to be extended.

4 Performed as-needed during the first 3 years of the 5-year program, depending on site conditions. No supplemental watering would occur for the final 2 years of the maintenance and monitoring period.

8.2.1 WEED AND PEST CONTROL

Non-native plant control measures would include hand pulling, hand cutting, cutting with handheld mechanical devices, and/or application of approved herbicides. Hand removal of non-natives is the most desirable method of control and would be used within seeded areas where feasible. Weeds

would be pulled when they can be positively identified and prior to the formation of seed heads (see Table 15, Weed Control and Treatment for Target Non-Native Plant Species).

The maintenance contractor would coordinate with the Project biologist to identify weeds for removal. Chemical herbicide control would be used for perennial species that are difficult to control by hand pulling. Herbicide treatments must be pre-approved by the Project biologist and applied by a licensed or certified pest control applicator. The herbicide must be approved for use in wetland areas. Application of herbicide would be suspended should precipitation be expected to occur within 24 hours of application and/or if wind exceeds 6 mile per hour.

Plant pests would be controlled using Integrated Pest Management techniques. Pest control would be performed by the restoration contractor using the least toxic method available, such as washing pests off of plants with a strong stream of water, using insecticidal soap, or installing plant protection devices.

8.2.2 GENERAL SITE MAINTENANCE

Trash would be removed from the wetland restoration area by the contractor on a regular basis. Trash consists of all anthropogenic materials, equipment, and debris dumped, thrown, washed, blown, or left within the wetland restoration area.

Pruning or clearing of native vegetation would generally not be allowed within the wetland restoration area, except as directed by the Project biologist. Native dead biomass and plant litter would not be removed and would be left in place, unless its removal is required for a specific management objective. Native organic biomass and leaf litter provide valuable microhabitats for benthic and terrestrial invertebrates, reptiles, small mammals, and birds. In addition, the decomposition of plant material is essential for the replenishment of soil nutrients and minerals. Fertilizers would not be used unless deemed necessary by the Project biologist to rectify a specific nutrient deficiency.

8.2.3 IRRIGATION SYSTEM MAINTENANCE

Contractor maintenance would include adjustment and repair of the temporary irrigation system. This may include repair or replacement of broken or malfunctioning components. Adjustment of the irrigation heads may be required to achieve 100% coverage. On the basis of monitoring observations, the Project biologist may make recommendations to the contractor to increase or decrease watering time or scheduling.

8.2.4 EROSION AND SEDIMENTATION

BMPs are not anticipated to be needed after vegetation has established in the wetland restoration area. However, temporary BMPs, such as burlap fiber rolls, silt fence, or burlap gravel bags, would be maintained for proper functioning until the site has reached Year 3 or until the Project biologist has deemed the BMPs unnecessary. Once the site is stabilized by native vegetation, the contractor would remove and dispose of temporary BMPs. If, after Year 3, there is active erosion or sedimentation within or directly adjacent to the Project site, the Project biologist would use the methods and protocols set forth under Section 10, Adaptive Management, of this Plan.

8.2.5 FENCE AND SIGNAGE MAINTENANCE

The location of gates and signage, and the language for the signage are included in the grading plans. Maintenance would include repair of Project gates and signage, and replacement as needed. The contractor would confer with the Project biologist if it appears that maintenance needs of the wetland restoration area indicate that changes in the specified location, materials, or methods of fencing need to be altered to meet their intent for this Project and provide appropriate site delineation and protection.

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9 ECOLOGICAL PERFORMANCE STANDARDS

9.1 VEGETATION PERFORMANCE STANDARDS

Monitoring would be conducted qualitatively and quantitatively by the Project biologist to determine if the wetland restoration area is meeting the established criteria. Table 18 summarizes the performance standards through Year 5. If the wetland restoration area fails to meet performance criteria in any given year, the Project biologist would recommend remedial actions to bring the wetland restoration area into a level of satisfactory establishment.

Native cover of the restoration area is expected to be 75% or greater relative to the reference site by the end of Year 5, with native species richness of 5 or more, 1% or less absolute cover by general non-native species (such as annual weeds), and 0% absolute cover by perennial invasive species, as shown in Table 17. All non-native weed species would be controlled as part of the maintenance effort, including the high-ranked California Invasive Plant Council species. Quadrat data along the transects would be collected as absolute cover to capture density and strata overlap, which can also be converted to relative cover for overall vegetation composition comparison.

Table 17
Target Vegetation Percent Cover

Year	Native Species Richness[1]	Native Container Plant Percent Survival[2]	Minimum Percent Native Plant Cover (Relative to the Reference Site)[1,2]	Maximum Percent Total Non-Native Cover[1]	Maximum Percent Perennial Invasive and Cal-IPC Species
1	5	100	15	5	0
2	4	90	25	5	0
3	4	90	40	2	0
4	5	80	60	1	0
5	5	80	75	1	0

Notes: Cal-IPC = California Invasive Plant Council

1 Average of all quadrat data.

2 In-kind natural recruitment of native vegetation through seedling germination can serve to compensate for container plant mortality.

9.2 REFERENCE SITE

The Kendall-Frost Marsh Reserve is the reference site (Figure 14) with which to compare the wetland restoration area's site conditions. Kendall Frost is a successfully restored marsh located within the same watershed, containing similar elevations for low saltmarsh and mid saltmarsh areas, and includes a similar plant palette to the Project. Available vegetation data from the Kendall-Frost Marsh Reserve was analyzed from three transects to inform the plant palettes, seed mix, and performance standards included in this Plan. Due to the wide variability of species composition within the reference site, performance standards are provided for overall native vegetative cover. Any limitations for comparisons to the reference site would be provided in the first annual monitoring report. The reference site would be used to determine if the progress of the wetland restoration area is consistent with the response of the reference site to prevailing weather and environmental conditions including sea level rise.

9.3 CALIFORNIA RAPID ASSESSMENT METHOD

The purpose of the California Rapid Assessment Method (CRAM) for the wetland restoration area is to evaluate the wetland function and value of the ephemeral drainages (washes and braided channels), and to quantify improvement of these functions and values over time. CRAM metrics would be compared to previous CRAM surveys from this site over time and used to inform management decisions. Adaptive management strategies, if necessary, would be identified, prioritized, and implemented.

Application of CRAM to measure improvement in wetland quality can be an effective tool, but it has limitations. CRAM considers a wide variety of factors that influence the health of a wetland, and some attributes cannot be improved within the confines of a 5-year wetland restoration program. A wetland may show a small change in total CRAM score over time in spite of great change in general appearance. For example, Attribute 1 is very difficult to change because it considers influences within 500 meters of an assessment area, most of which may be outside a project's footprint. However, Attributes 3 and 4 can be greatly affected by decisions made during the design phase of a project. Table 18 provides a summary of CRAM attributes, associated metrics, and feasibility for improvement in the context of this Project.

Table 18
Summary of CRAM Attributes and Metrics and Feasibility for Improvement

Attribute	Metric	What this Metric Measures	Anticipated Implementation Score	Ways to Improve the Score	Feasibility for this Project
Attribute 1: Buffer and Landscape Context	Aquatic Area Abundance	Spacial association with other areas of aquatic resources, such as other wetlands, lakes, and streams	D	Increase the amount of wetland areas within 500 meters of the Project site.	Low. The wetland Project in association with other restoration projects is farther than 500 meters away.
	Buffer	Size and natural quality of the area within 250 meters	D	Minimize proximity to pavement, closed fences, active rerestoration, and urbanized areas.	Low. The wetland restoration area area is within Mission Bay Park and rerestoration is one of the primary goals of the Improvement Zone. There is little opportunity to reduce infastructure within 250 meters of the wetland area.
Attribute 2: Hydrology	Water Source	Natural quality of hydrologic inputs that affect the dry season condition of the area within	C–D	Remove storm drains.	Low. It is not a goal of this wetland restoration to remove the storm drains, but rather to improve the water quality of

Table 18
Summary of CRAM Attributes and Metrics and Feasibility for Improvement

Attribute	Metric	What this Metric Measures	Anticipated Implementation Score	Ways to Improve the Score	Feasibility for this Project
		2 kilometers.			the runoff coming from the storm drains.
	Hydroperiod	The characteristic frequency and duration of inundation or saturation of the wetland during a typical year.	B–C	Remove the berm to remove the human-caused alterations and/or modify the berm to allow for two daily tidal minima and maxima levels.	Low. It is not the intent of this wetland restoration to remove the berm, but rather to build a berm in order to increase the residence time for water to drain to improve water quality.
	Hydrologic Connectivity	The ability for water to flow into or out of the wetland.	B	Allow for rising water in the wetland to have unrestricted access to adjacent areas.	Moderate at time of restoration. Low for change over 5-year mitigaiton period. Project design incorperates a sea-level rise analysis through the year 2100 (up to 7 feet) and a 100-year storm event.
Attribute 3: Physical Structure	Patch Richness	Diversity of physical surfaces and features.	D	Add woody debris; shellfish beds, fmonthlypools, or depressions within the subtidal channels; and add pools or pannes	High at time of restoration. Moderate for change over 5-year restoration period.

Table 18
Summary of CRAM Attributes and Metrics and Feasibility for Improvement

Attribute	Metric	What this Metric Measures	Anticipated Implementation Score	Ways to Improve the Score	Feasibility for this Project
				within the Project site.	
	Topographic Complexity	Quality and diversity of elevation changes.	C–D	Construct subtidal channels with adjacent floodplain and upland bench; create an uneven gradient and include partially burried debris.	High at time of restoration. Moderate for change over 5-year restoration period.
Attribute 4: Biotic Structure	Plant Composition	Diversity of native plant species and plant heights; low cover from non-native invasive species.	D	Install/seed a wide variety of species of various heights; eliminate non-native invasive species.	Moderate to High.
	Horizontal Interspersion	Number and distribution of distinct plant groupings.	D	Install/seed species in distinct associations; avoid uniform application.	Moderate to High.
	Vertical Structure	Number of overlapping plant layers.	D	Install/seed species of various heights.	Moderate to High.

Notes: CRAM = California Rapid Assessment Method

CRAM scores would be used to evaluate form and function of the wetland restoration area and therefore general achievement of non-wetland waters and wetland restoration requirements. When compared to the baseline conditions, the results of the Years 1, 3, and 5 CRAM surveys should show the following, at a minimum:

- Physical form and structure that are suitable for tidal and stormwater flow and conveyance.

- Development of hydrologic features within the subtidal channels and greater wetland area that provide evidence of expected function.
- Continued improvement in biotic structure (improved score in Attribute 4).
- Overall trajectory toward improved rather than degraded condition (improved scores in Attributes 3 and 4).
- Overall increase in CRAM score.

9.4 JURISDICTIONAL EVALUATION AT THE END OF YEAR 5

At the end of Year 5, an evaluation of the dominance of wetland vegetation throughout the site would be conducted using the "Vegetation" portion of the Wetland Determination Data Form – Arid West Region. The results of this exercise must achieve a Prevalence Index Score of less than or equal to 3. Results would be included in the Year 5 Annual Report.

10 MONITORING AND REPORTING PLAN

The Project biologist would perform monitoring of the wetland restoration area during implementation through Year 5 to ensure that the restoration program requirements are adhered to, document the restoration effort and progress toward the annual performance standards, and ensure that site maintenance is being adequately performed by the maintenance contractor.

Monitoring would consist of qualitative monitoring, a functional assessment using CRAM, and quantitative (quadrat) monitoring.

10.1 MONITORING AND REPORTING SCHEDULE

Monitoring would consist of monthly qualitative site visits for the 120-day PEP period and Year; monthly monitoring from December through April for Years 2 and 3, and quarterly monitoring for Years 4 and 5. Monitoring would also consist of CRAM post-implementation, and Years 1, 3, and 5 (Table 19). Qualitative monitoring would be conducted by the Project biologist to determine if the site is on trajectory to meet the annual performance standards. If restoration efforts fail to meet the performance standards in any given year, the Project biologist would recommend remedial actions to bring the site into alignment with the performance standards.

Table 19
Monitoring and Reporting Schedule

Task	120-Day PEP	Year 1	Year 2	Year 3	Year 4	Year 5
Qualitative Monitoring	At 30-, 60-, 90-, and 120-day PEP	Monthly	Monthly (Dec–April); quarterly thereafter	Monthly (Dec–April); quarterly thereafter	Quarterly	Quarterly
CRAM Monitoring	Post-implementation (baseline conditions)	Year 1 in fall/winter	N/A	Once in fall/winter	N/A	Once in fall/winter
Quadrat Data	N/A	N/A	Annually in fall	Annually in fall	Annually in fall	Annually in fall
Reporting	As-built (implementation); site observation Reports (monthly); 120-day PEP	Site Observation Reports (Monthly) Annual Reports [a]	Site Observation Reports (Monthly (Dec–April); Quarterly thereafter)	Site Observation Reports (Monthly (Dec–April); Quarterly thereafter) Annual Reports [a]	Site Observation Reports (Monthly (Dec–April); Quarterly thereafter) Annual Reports [a]	Site Observation Reports (Monthly (Dec–April); Quarterly thereafter) Annual Reports [a]

Notes: PEP = plant establishment period; CRAM = California Rapid Assessment Method; N/A = not applicable

[a] Timing would be based on the lead agency requirement once permits are obtained.

10.2 AS-BUILT REPORT

Prior to implementation, photo points would be selected, and photos of the Project and reference site taken. These photo points would coincide with the transect sampling areas and serve as photographic evidence for the wetland restoration area.

Within 45 days of successful completion of the installation of the native container plants or hydroseed (whichever is later), the Project biologist would submit a post-installation memorandum to the City and applicable regulatory agencies documenting the completion of the grading, plant and seed installation, and weed removal of the installation phase and describing the "as-built" conditions of the wetland restoration area. The report would include a copy of the reduced set of construction drawings and a figure showing the final as-built limits of the wetland restoration area. Photographs would be included in the as-built report to document the site at the completion of the initial phase of implementation. The post-installation memorandum would include the following:

- Dates work within waters of the United States and waters of the state were initiated and completed.
- Summary of compliance status for each regulatory agency permit condition.
- Color photographs (including maps of photo points) taken at the wetland restoration area before and after installation work.
- One copy of the as-built drawings for the entire wetland restoration area.
- Schedule for future wetland restoration area monitoring and reporting.

10.3 120-DAY PLANT ESTABLISHMENT PERIOD AND REPORT

The initial survival of the native plants installed within the wetland restoration area would be evaluated after a 120-day PEP. This period would start after planting is completed and conclude after the 120-day period and upon the acceptance of successful establishment of the wetland restoration area.

The contractor would be responsible for the health and mortality of the installed plant material. The Project biologist would visit the wetland restoration area at 30, 60, 90, and 120 days during the PEP. The Project biologist would coordinate with the restoration contractor to replace any native plants that have died during the PEP. Generally, plants would be recommended for in-kind replacement; however, the Project biologist may recommend alternative species if it is suspected that unsuitable growing conditions caused mortality. Plants noted for replacement would be installed prior to the

120-day walk-through with the Project biologist. Plants must be in the ground at least 30 days prior to completion of the PEP by the City.

The following criteria must be met for the 120-day PEP to be considered successful, and the results would be documented in the 120-day PEP report:

- All target exotics removed or killed in place.
- Areas free of debris and trash.
- Areas free of erosion.
- 100% survivorship of container plants.

The 5-year maintenance and monitoring program would begin after the 120-day PEP has been accepted. Maintenance activities would be conducted concurrent with the installation, would continue throughout the initial PEP, and would conclude at the end of the 5-year maintenance and monitoring period.

10.4 QUALITATIVE MONITORING

Qualitative monitoring would include assessment of the overall conditions of the rehabilitated non-wetland waters and the wetland restoration area. The conditions to be assessed qualitatively include visual evaluation of hydraulic functions and conditions if present, evidence of surface hydrology via active storm or post-storm flow if present, number and type of hydric soil indicators if present, plant health, need for replacement planting, plant pests, wildlife usage, level of non-native plant infestation, and need for trash removal. Any recommended remedial measures would be reported to the Project proponent/owner and maintenance contractor for immediate consideration and implementation.

Following each site visit, the Project biologist would generate a brief Site Observation Report indicating the condition of the site and any maintenance and/or remedial actions needed to help ensure the Project meets its annual performance goals. Although no focused wildlife surveys would be conducted, wildlife usage would be documented. Copies of the Site Observation Report would be provided to the City and the restoration contractor.

10.5 QUANTITATIVE MONITORING

Quantitative data collection would occur once annually in the spring during Years 2 to 5. Data on percent native species cover, non-native species cover, and bare ground would be collected and summarized in the annual reports. Quadrat data collection locations would be established in the saltmarsh area along 18 permanent 50-meter transect lines (25-meter transect lines may be used if

the areas are too small to allow for 50-meter transect lines). A 1-square-meter quadrat would be sampled at each 5-meter interval along each permanent transect line, alternating sides of the transect. At the start of each transect, the quadrat would be placed on the right side of the transect at meter 0. Location within the marsh strata (low saltmarsh, transitional saltmarsh, or mid saltmarsh) would be documented for each quadrat.

Overall count of native plant species present within the marsh restoration area would be documented to reflected species richness. Percent cover of all plant species, all non-native plant species present, and bare ground would be estimated to the nearest 1% for each quadrat. An overall average would be calculated for each transect. Transects would be photo-documented at the time of data collection and georeferenced using GPS. A total of 180 quadrat samples would be collected.

Permanent photo-documentation points would be established at key locations to visually document progress of the wetland restoration area. The Project biologist would establish permanent photo points prior to Project implementation and provide them on a site map for future reference. Photos would be taken at milestone events during installation and annually through the long-term monitoring phase of the Project. Permanent photo-documentation points would also be established along each transect to record the progress of quantitative data collection over the 5-year period. Additionally, photographs would be taken of any significant management issues or biological observations, including photographs of changing conditions within the wetland restoration area. Photos from photo-documentation points and mapped locations would be included in annual reports.

10.6 CALIFORNIA RAPID ASSESSMENT METHOD

A post-implementation CRAM survey would be conducted to document the baseline conditions of the wetland restoration area. All CRAM surveys would be conducted by trained CRAM practitioners and would follow the approved methodologies for the CRAM Estuarine Module (CWMW 2013; field book version 6.1 or most current; datasheet Version 6.1 or most current). Results of the CRAM surveys would be included in the Annual Reports for Years 1, 3, and 5, and entered into the CRAM online database.

The purpose of CRAM surveys for the wetland restoration area (i.e., the created ephemeral drainages) is to evaluate the wetland function and values and to quantify improvement of these functions and values during the monitoring period. All CRAM surveys would be conducted by trained CRAM practitioners and would follow the approved methodologies for the CRAM Estuarine Module (Version 6.1 or most current).

CRAM surveys would be conducted for the as-built (baseline) condition, Year 3, and Year 5. The as-built survey would be conducted directly after construction of the drainages and prior to the start of the 5-year monitoring period. Subsequent surveys would be conducted during Years 3 and 5 of the monitoring period. Results of CRAM surveys would be reported in the as-built report and Year 3 and Year 5 annual reports. The CRAM scores in Years 3 and 5 would be compared to baseline scores to evaluate how the wetland functions and values improved during the monitoring period.

Per CRAM protocol, each CRAM survey would be conducted for one assessment area (AA), recommended to be a 56-meter (approximate) circle, but the shape can be non-circular, if necessary, to fit the wetland and meet hydromorphic criteria. The recommended minimum size is 30 meters by 30 meters.

Establishment of the AAs would occur during the initial survey (i.e., the pre-CRAM survey) per CRAM protocol. Subsequent surveys (implementation and Years 3 and 5) would be conducted within these same AAs.

The Estuarine Module requires the collection of information on the AA that includes the surrounding landscape (Attribute 1: Buffer and Landscape Context), aquatic area abundance and buffer (Attribute 2: Hydrology), water source, hydroperiod, and hydrologic connectivity (Attribute 3: Physical Structure), structural patch richness and topographic complexity, and Attribute 4: Biotic Structure) plant community compositions, horizontal interspersion, and vertical biotic structure. Each attribute is scored individually and then used to calculate the final CRAM score. Potential environmental "stressors" are noted for the AA, but do not factor into the total CRAM score.

10.7 ANNUAL MONITORING REPORTS

An annual restoration monitoring report summarizing the progress of the wetland restoration area would be submitted to the City and applicable agencies annually following completion of all restoration work. In the event that permits obtained by wildlife agencies (401/404/1602/BO etc.) require additional monitoring or reporting tasks, then one report would include all of the required items of each agency. The submittal timing of the lead agency would take precedence. If no as-built report is required for a wetland restoration area, then the first annual report would include a discussion of the as-built conditions according to the grading plan and any minor changes that occurred to the grading plans would be red lined and included as an attachment. Each annual report would document the condition of the wetland restoration area and include photographs taken from the same fixed points in the same directions. Annual reports would identify any shortcomings of the restoration program and recommend remedial measures, if necessary, for the successful completion of the wetland restoration program.

11 ADAPTIVE MANAGEMENT

Adaptive management is defined as a flexible, iterative approach to the long-term management of biological resources that is directed over time by the results of ongoing monitoring activities and direct observation of environmental stressors that are producing adverse results within the wetland restoration area.

An integral part of successful wetland restoration is early detection of problems, determining the cause(s) of those problems, and attempting to correct those problems so that the wetland restoration area achieves its objectives and ecological performance standards. If annual performance guidelines are not met for any given year in the 5-year restoration period and/or if the Project experiences a significant unexpected problem, the Project biologist would prepare an analysis of the cause(s) of failure and would propose remedial actions in the annual report.

Adaptive management measures would use qualitative data gathered in the field prior to and throughout the monitoring period to assess aquatic functions and values, the effects of weeding maintenance, and the status of seed germination and cover within the wetland restoration area. Following an event that causes damage to all or part of the wetland restoration area, this data would be used to drive management considerations for the repair of the damaged areas. Achieving the key goals of the restoration program and establishing a naturally functioning aquatic resource would be the focus of all adaptive management decisions.

If determined necessary, the Project biologist, in consultation with the City, would notify the regulatory agencies and prepare an analysis of the Project's problem(s), and propose remedial actions to correct the problems in order to meet the performance standards and success criteria at the end of the 5-year maintenance and monitoring period. The maintenance and monitoring obligations would continue and/or alternative contingency measures and interim performance standards would be negotiated until the regulatory agencies give final permit compliance/approval or approval for alternative compensation measures.

Individual environmental stressors are discussed below, along with an anticipated range of management responses to correct any damage that may occur to the wetland restoration area.

11.1 DROUGHT

Seasonal drought is a normal annual cycle in San Diego County. Periods of extended drought could occur, including low seasonal rainfall and prolonged high temperatures that may negatively affect the wetland restoration area (e.g., lower native cover, higher plant mortality, increased potential for pest infestations on site). If drought conditions limit native vegetation development, an additional

seed application may be considered to replenish the native seed bank to allow the site to respond normally in the event of renewed rainfall and/or flooding.

11.2 HERBIVORY

Some grazing and browsing by native herbivores is expected to occur within the wetland restoration area. The plant palettes for each vegetation community have been designed to tolerate a moderate level of plant browsing. If browsing levels should become elevated (i.e., if significant plant mortality and cover reduction occurs) as indicated by qualitative monitoring, remedial measures would be implemented. Browse guards (e.g., plastic fencing/wire cages) may be installed around the base of trees and young shrub plants in affected areas to reduce plant mortality. In addition, remedial planting or seeding may be necessary, depending on the stage of the Project.

11.3 ADVERSE HYDROLOGIC CHANGES

Tidal marshes are dynamic systems that can experience topographic modification due to tidal fluctuations. In addition, this site has two storm drain outlets that can affect topographic modification from storm flow and flood events. It is expected that sediment would be deposited and exported from the wetland restoration area during especially high tides and flood events. If elevations within the wetland restoration area change in such a way that would compromise the success of the Project (such as excessive aggradation, degradation, and/or sea-level rise), localized grading, thin-layer sediment additions, recontouring, and/or re-planting may be necessary for the Project to achieve success. In the event of adverse hydrologic and/or topographic changes affecting the wetland restoration area, the Project biologist would assess the conditions and provide adaptive management recommendations to the City and the regulatory agencies, including weed-free BMPs such as burlap-encased straw wattles, fiber rolls, or burlap gravel bags, and/or additional grading.

11.4 FIRE

San Diego County experiences periodic wildfires. Although this restoration area is on the coast and within a park setting, there is still potential for a fire to affect the site. In the absence of non-native weed cover, particularly non-native grasses, there would be a very low chance of fire to carry through the wetland restoration area. Should weeds be allowed to persist, the fire threat would increase. Therefore, weed management would be an important factor in keeping this environmental stressor to a minimum.

Fire presents the possibility for faster-growing, early successional non-natives to out-compete recovering native species. In the event of fire affecting the wetland restoration area, the Project biologist would assess the post-fire conditions and provide adaptive management recommendations, including an increase in weed control.

12 FINANCIAL ASSURANCES

The City is the owner and permittee of the Project and is financially responsible for implementation and management of the wetland restoration area. Proposition C, which amended the City Charter by adding Section 55.2, designates the use of a portion of the lease revenue from Mission Bay Park for capital improvements in Mission Bay Park and for other regional parks. This fund is known as the Mission Bay Park Improvement Fund and would be used to fund this wetland restoration .

To determine a cost estimate for this wetland restoration area, unit costs were derived from the City of San Diego Unit Price List and similar project cost estimates. The preliminary estimated construction cost of the preliminary design is shown in Table 20.

Table 20
Preliminary Estimate of Construction Cost

Item	Unit	Quantity Total	Unit Price	Cost
Mobilization of Equipment	LS	1	$1,123,800	$1,123,800
Earthwork and Stockpiling	CY	810,000	$13.40	$10,854,000
Irrigation and Planting, Plus 1 Year of Plant Establishment	LF	7,515	$18.92	$142,184
Plantings	AC	31.5	147,294	$4,497,570
Vehicular Bridges	SF	2,920	$600	$1,752,000
Pedestrian Bridges	SF	3,580	$400	$1,432,000
Clear and Grub	AC	44.7	$63,130	$2,821,911
Perimeter Fence (6-Foot-Tall Chainlink)	LF	3,758	$20	$27,500
New Roadway Construction	LF		$	$126,000
Traffic Control	LS		$	$484,745
Cut/fill Construction Haul Road	EA	2	$1,000	$337,500
Field Office	LS	1	$10,000	$126,000
Subtotal Direct Construction Cost	—	—	—	*$23,599,210*
Construction Indirect Costs (Overhead, Bond, Profit)	—	—	—	*$8,019,012*

Table 20
Preliminary Estimate of Construction Cost

Item	Unit	Quantity Total	Unit Price	Cost
Contingency (25% of Total Construction Cost)	—	—	—	*$7,904,556*
			Total Construction Cost	**$39,523,000**

Notes: LS = lump sum; CY = cubic yards; AC = acres; SF = square feet; LF = linear feet; EA = each

The planning and design cost estimate is based on 40% of the total construction costs. The environmental permitting cost is based on 5% of the total construction costs (Appendix A). The total preliminary estimated cost of the Project's preliminary design is shown in Table 21.

Table 21
Preliminary Design Estimated Cost

Item	Cost
Total Construction Cost (see Table 22)	**$39,523,000**
Planning and Design (40% of Construction Cost)	$15,809,200
Environmental Permitting (5% of Construction Cost)	$1,976,150
Total	**$57,308,350**

13 COMPLETION OF RESTORATION

13.1 NOTIFICATION OF COMPLETION

At the end of Year 5, the final annual monitoring report would be submitted to the regulatory agencies, including an evaluation of restoration program success. The report would make a determination of whether the requirements and performance standards of the restoration program have been achieved. Successful restoration would be considered to have been achieved when the wetland restoration area is self-sustaining without supplemental irrigation or any substantial remedial activities for a minimum of 2 years. Following attainment of final performance standards, a vegetation mapping effort would be conducted to document post-Project site conditions and be included in the final annual report. At the request of the regulatory agencies, a formal jurisdictional wetland delineation may be performed of the wetland restoration area to assist in determination of the Project's fulfillment of its intent.

At the conclusion of the 5-year maintenance and monitoring period, or at such time that the Project has achieved the performance standards, the Project biologist would inform the applicant and regulatory agencies and request final approval. A site review would be scheduled for the City of San Diego Parks and Recreation Department and all interested parties to review the wetland restoration area to confirm final conditions. Upon verbal and/or preferably written confirmation of Project success by the regulatory agencies, the regulatory agencies would release the City of all obligations associated with the 5-year maintenance and monitoring program.

13.2 REGULATORY AGENCY CONFIRMATION

Following receipt of the notification of completion, regulatory agencies may visit the wetland restoration area to confirm the completion of the restoration effort and to verify compliance with permit conditions. Monitoring and maintenance would continue for 5 years or until performance standards have been met and the regulatory agencies have provided written release via email or letter confirming that the wetland restoration area may be transferred to the long-term/in-perpetuity manager and that all other permit special conditions are in compliance.

Following the maintenance and monitoring period, construction BMPs and any temporary fencing would be removed.

At the end of Year 5, or at such time that the Project has achieved the performance standards, a notification of completion and final monitoring report would be submitted by the City to the regulatory agencies. The final report would include the evaluation of success of the restoration program and make a determination of whether the requirements and performance standards of the restoration program have been achieved.

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14 MANAGEMENT ELEMENT

This Restoration site would be managed long-term by the City of San Diego Parks and Recreation Department in accordance with the MSCP Subarea Plan and/or a Long-Term Habitat Management Plan, and consistent with future update to the Mission Bay Park Natural Resources Management Plan (NRMP).

Prior to subsequent project-level approval and as part of the project-specific environmental review pursuant to CEQA, the conceptual habitat restoration and monitoring plan would be updated to reflect specific site protection, long term habitat management, and long-term habitat management funding mechanism.

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15 REFERENCES

Bodhi Group, The. 2018. *Draft – Geotechnical and Geologic Hazard Evaluation – Mission Bay Park Improvements Projects – San Diego, California*. Prepared for Dudek. December 2018.

Brinson, M.M. 1993. *A Hydrogeomorphic Classification for Wetlands*. U.S. Army Corps of Engineers, Wetlands Research Program Technical Report WRP-DE-4. http://www.zones-humides.org/sites/default/files/images/interets/brinson_1993_a_hydrogeomorphic_classification_for_wetlands.pdf.

City of San Diego. 2002. *Mission Bay Park – Master Plan Update*. Prepared August 2, 1994; last amended July 9, 2002.

City of San Diego. 2018. San Diego Municipal Code, Land Development Manaual, Biology Guidelines. Amended February 1, 2018.

CWMW (California Wetlands Monitoring Workgroup). 2013. California Rapid Assessment Method (CRAM) for Wetlands, CRAM Field Books - Episodic Riverine. Episodic Riverine version 1.0. December 2015.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States.* FWS/OBS-79/31. Prepared for U.S. Fish and Wildlife Service. December 1979. http://www.fws.gov/wetlands/documents/classification-of-wetlands-and-deepwater-habitats-of-the-united-states.pdf.

Dudek. 2025. *Biological Resources Technical Report Mission Bay Park Improvement Program*. Prepared for the City of San Diego. 2025.

Everest (Everest International Consultants Inc.). 2018. *ReWild Mission Bay: Wetlands Restoration Feasibility Study Report*. Prepared by Everest in association with Nordby Biological Consulting, New West Land Company, and AECOM for the San Diego Audubon Society. Funded by the California State Coastal Conservancy U.S. Fish and Wildlife Service (Coastal Program). September 2018.

Merkel (Merkel & Associates Inc.). 2013. Mission Bay Park Eelgrass Inventory Bathymetric Change Analysis 1988, 1992, 1997, 2001, 2007, and 2013. Prepared for the City of San Diego Public Works Department, E&CP, AEP Divisions.

Merkel & Associates, Oday Consultants. 2018. Mission Bay Post-Dredge Bathymetric Survey [Bathymetirc Survey]. San Diego, CA Merkle and Associates, Inc.

Moffatt & Nichol. 2019. *Draft Mission Bay Hydrology Study*. Mission Bay Program Environmental Impact Report. April 5, 2019.

Moffatt & Nichol. 2025. *Preliminary Engineering Report North Fiesta Island Wetland Restoration*. July 11, 2025 83pp.

NOAA (National Oceanic and Atmospheric Association). 2019. "Tides & Currents." www.tidesandcurrents.noaa.gov/.

NOAA. 2024. "Datums for 9410170, San Diego CA." NOAA Tides & Currents. https://tidesandcurrents.noaa.gov/datums.html?id=9410170.

NRCS (Natural Resources Conservation Service). 2021. United States Department of Agriculture. Soil Survey Geographic (SSURGO) Database for San Diego, CA. Accessed January 2021. https://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/california/CA638/0/part1.pdf.

Oberbauer, T., M. Kelly, and J. Buegge. 2008. *Draft Vegetation Communities of San Diego County*. Based on Preliminary Descriptions of the Terrestrial Natural Communities of California, by R.F. Holland, PhD, October 1986. March 2008.

Rick Engineering. 2020. *Preliminary Engineering Report Cudahy Creek (Leisure Lagoon) Wetland Restoration*. August 7, 2020.

SES (Schaefer Ecological Solutions). 2025. *Aquatic Resources Delineation Report Mission Bay Park Improvement Zone*. September 2025.

Smith, R.D., A. Amman, C. Bartoldus, and M.M. Brinson. 1995. *An Approach for Assessing Wetland Functions Using Hydrogeomorphic Classification, Reference Wetlands, and Functional Indices*. Technical Repot. WRP-DE-9. U.S. Army Engineer Waterways Experiment Station, Bicksburg, Mississippi.

Tetra Tech. 1983. *Water Quality Control Studies – Mission Bay Park.* Prepared for City of San Diego. March 1983.

Tronske, N.B., T.A. Parker, H.D. Henderson, J.L. Burnaford, and D.C. Zacherl 2018. "Densities and Zonation Patterns of Native and Non-Indigenous Oysters in Southern California Bays." *Wetlands* 38:1313–1326. https://doi.org/10.1007/s13157-018-1055-0.

USACE (U.S. Army Corps of Engineers). 2015. *Regional Compensatory Mitigation and Monitoring Guidelines for South Pacific Division*. http://www.spd.ACOE.army.mil/Portals/13/docs/regulatory/mitigation/MitMon.pdf.

USDA (U.S. Department of Agriculture). 2021. Web Soil Survey. USDA Natural Resources Conservation Service, Soil Survey Staff. Accessed January 2021. http://websoilsurvey.nrcs.usda.gov/.

Weightman, C. 2017. "Agency Interview. Multi-Benefit Restoration Projects." In-person conversation between C. Weightman (California Department of Fish and Wildlife) and L. Monarres (Dudek). August 10, 2017.

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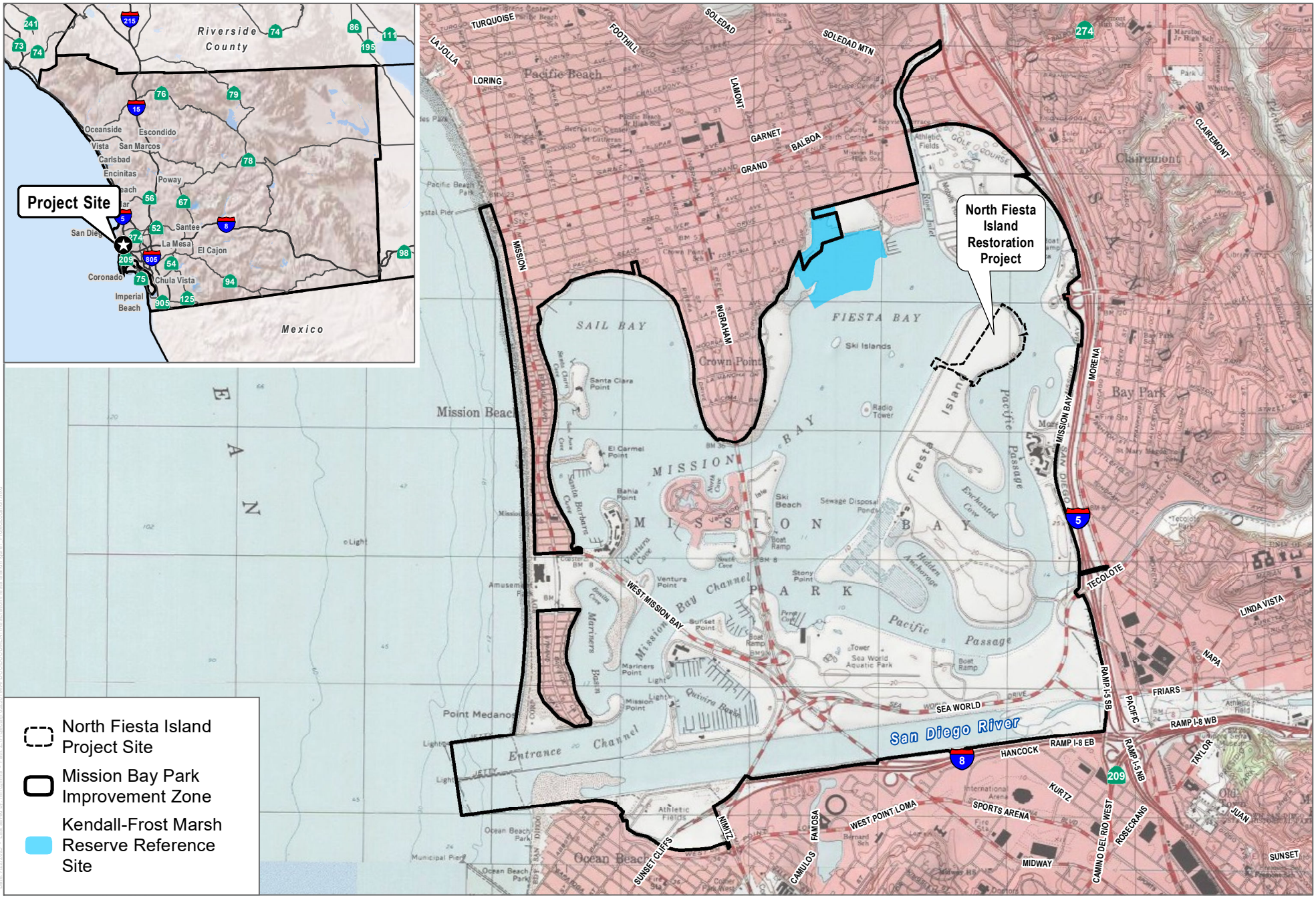

SOURCE: USGS 7.5-minute La Jolla Quadrangle

DUDEK

FIGURE 1

Project Location

North Fiesta Island Wetlands Restoration Project Conceptual Habitat Restoration and Monitoring Plan

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SOURCE: ESRI 2024; City of San Diego 2018

DUDEK

0 420 840 Feet

FIGURE 2

Project Site

North Fiesta Island Wetlands Restoration Project Conceptual Habitat Restoration and Monitoring Plan

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SOURCE: City of San Diego 2025.

FIGURE 3

North Fiesta Island Wetland

Mission Bay Park Improvements Program

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SOURCE: SANGIS 2023; City of San Diego 2018

DUDEK

0 175 350 Feet

FIGURE 4

Impacts to Jurisdictional Resources

North Fiesta Island Wetlands Restoration Project Conceptual Habitat Restoration and Monitoring Plan

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Aerial View of Mission Beach and False Bay – 1930 (www.sandiego.gov)

False Bay was historically unnavigable as the channels were narrow and shallow. The City began dredging in 1946 to create Mission Bay Park. Dredging operations, and subsequent land creation with dredged and upland material, occurred between 1946 and 1956, 1959 and 1961, and 1963 and 1964 to create the current configuration of Mission Bay. Landforms, such as Fiesta Island, were formed with what is geologically described as Artificial Fill. This Artificial Fill consists primarily of loose to medium dense silty sands with intermittent layers of soft clay.

SOURCE: RICK ENGINEERING, 2019

FIGURE 5

Historic Aerial Photo

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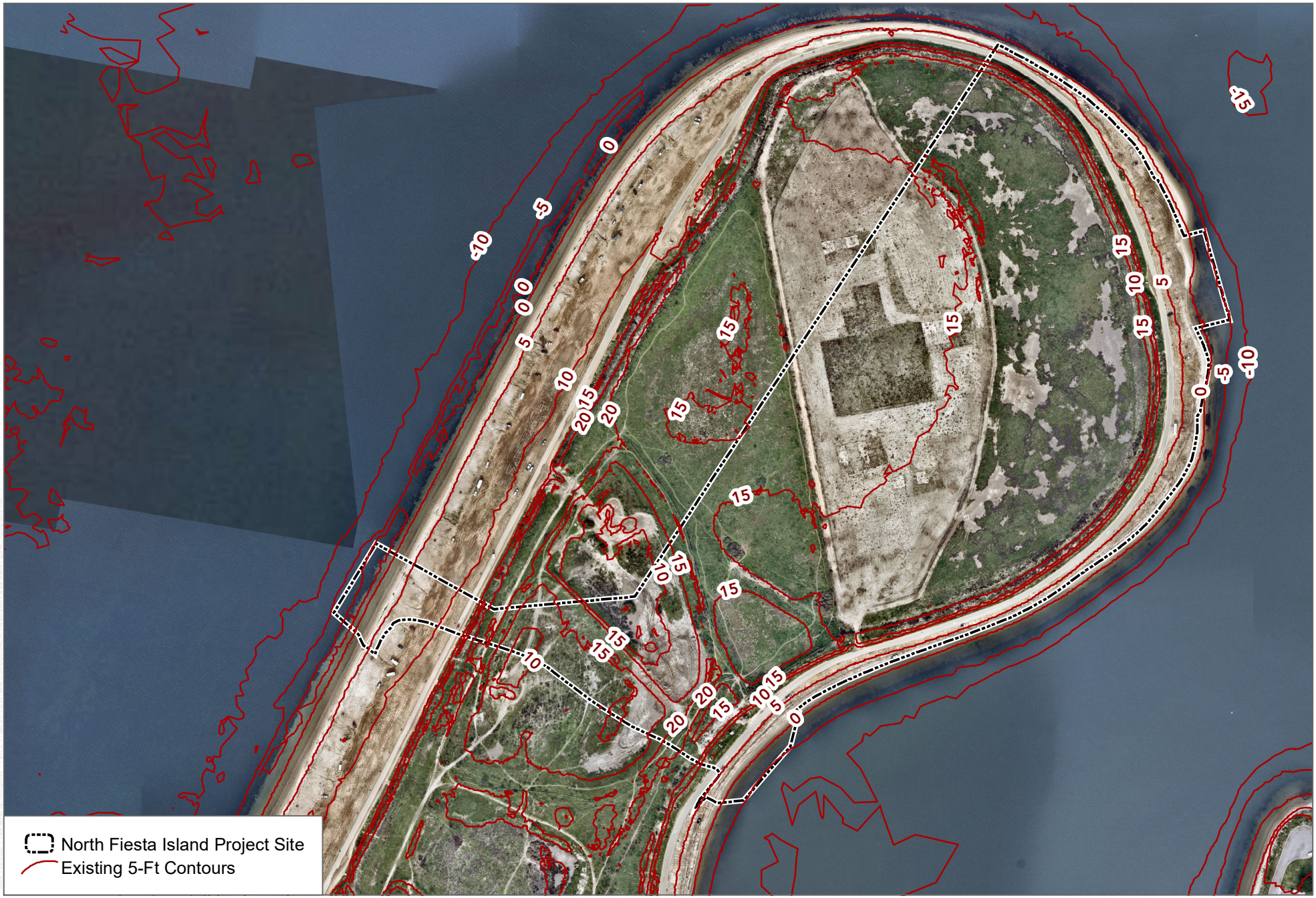

SOURCE: SANGIS 2023; MOFFAT NICHOL 2021

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0 175 350 Feet

FIGURE 6

Topography

North Fiesta Island Wetlands Restoration Project Conceptual Habitat Restoration and Monitoring Plan

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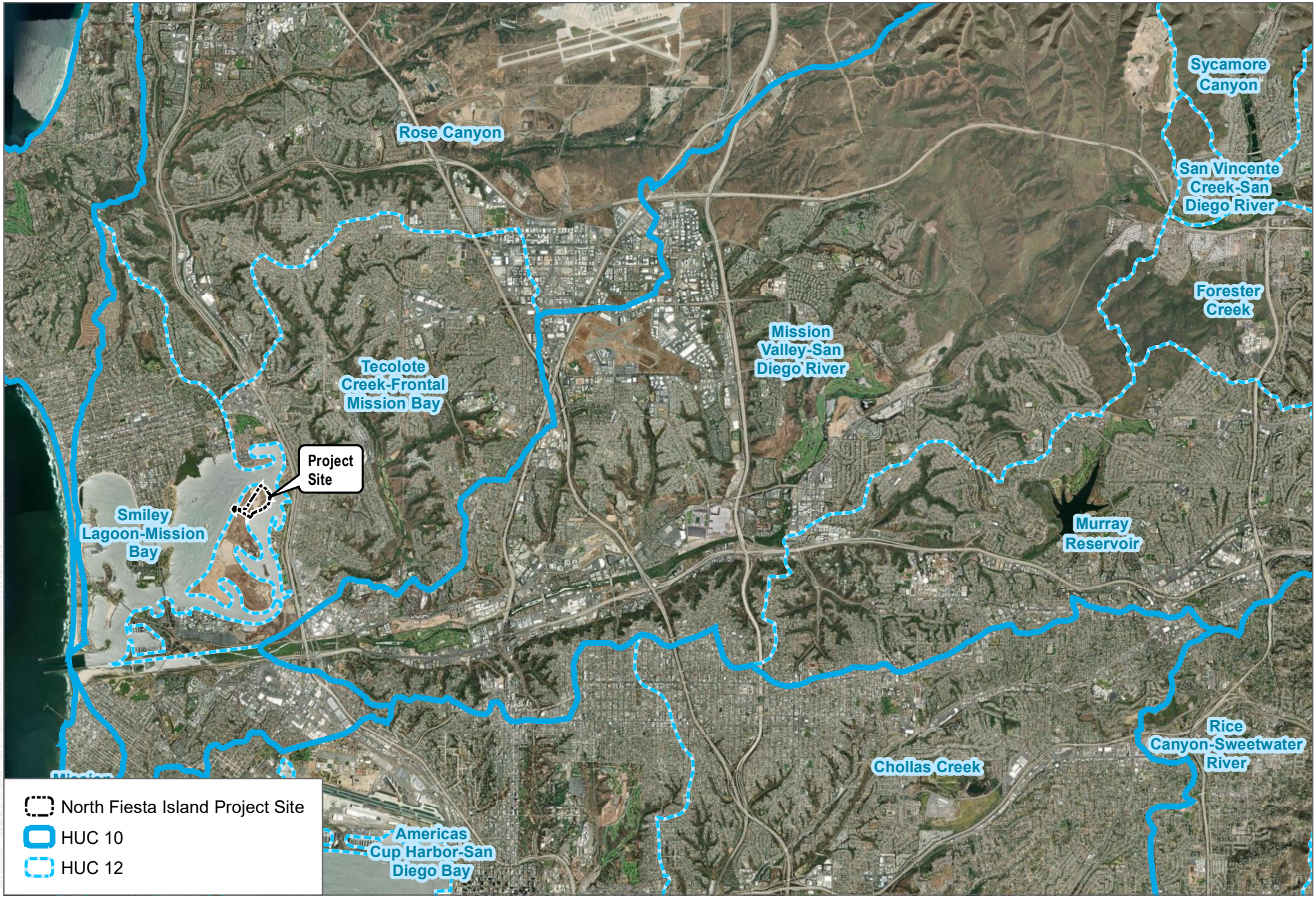

SOURCE: ESRI 2024; USGS 2018; MOFFAT NICHOL 2021

DUDEK

0 4,150 8,300 Feet

FIGURE 7

Hydrologic Setting

North Fiesta Island Wetlands Restoration Project Conceptual Habitat Restoration and Monitoring Plan

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SOURCE: SANGIS 2023; USDA 2018; MOFFAT NICHOL 2021

DUDEK

0 175 350 Feet

FIGURE 8

Soils

North Fiesta Island Wetlands Restoration Project Conceptual Habitat Restoration and Monitoring Plan

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SOURCE: SANGIS 2023; City of San Diego 2018

DUDEK

0 175 350 Feet

FIGURE 9

Existing Habitats and Special-Status Plants

North Fiesta Island Wetlands Restoration Project Conceptual Habitat Restoration and Monitoring Plan

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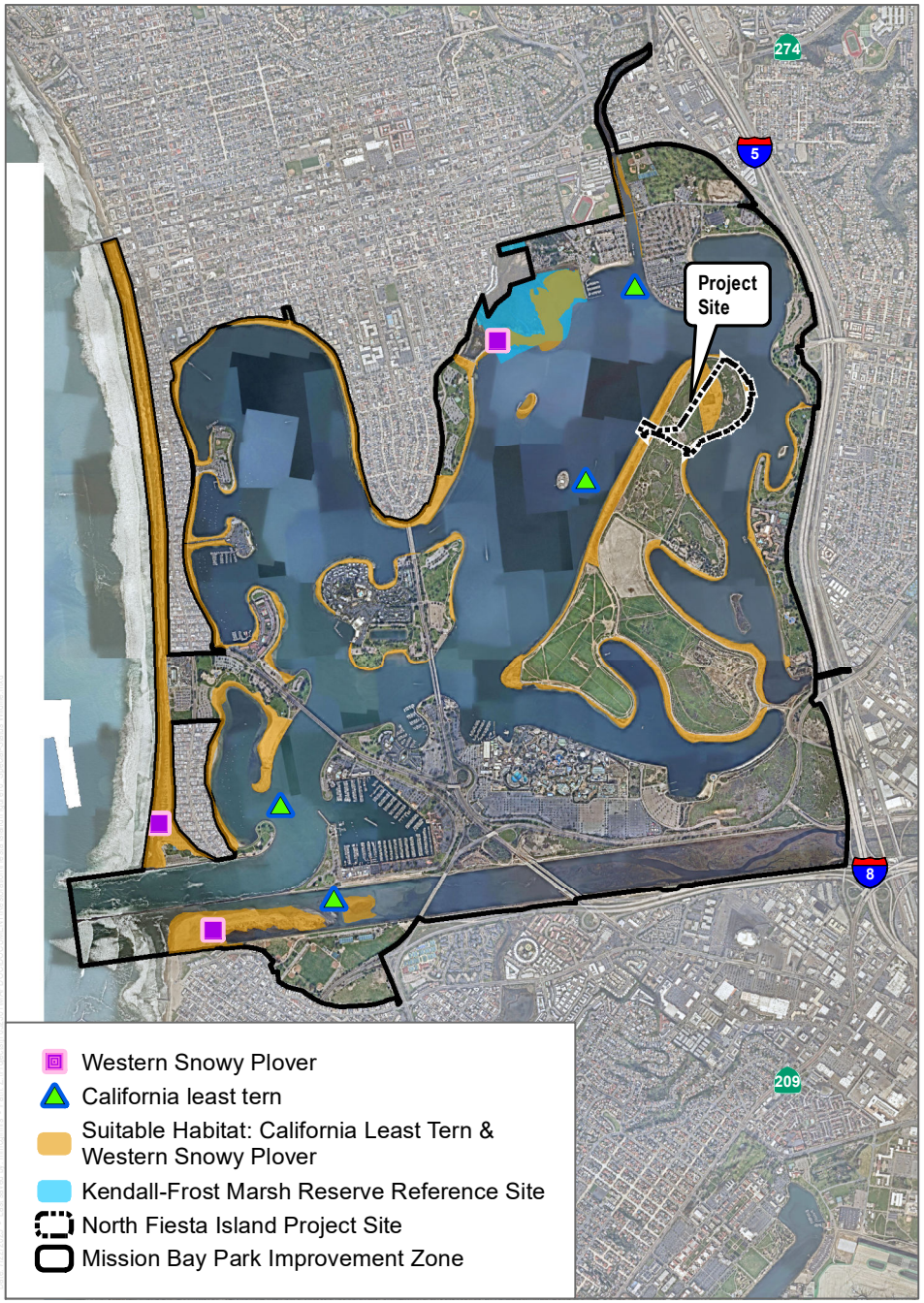

SOURCE: SANGIS 2023; City of San Diego 2018

DUDEK

0 250 500 Feet

FIGURE 10

Special-Status Wildlife Species - CA Least Tern and Western Snowy Plover

North Fiesta Island Wetlands Restoration Project Conceptual Habitat Restoration and Monitoring Plan

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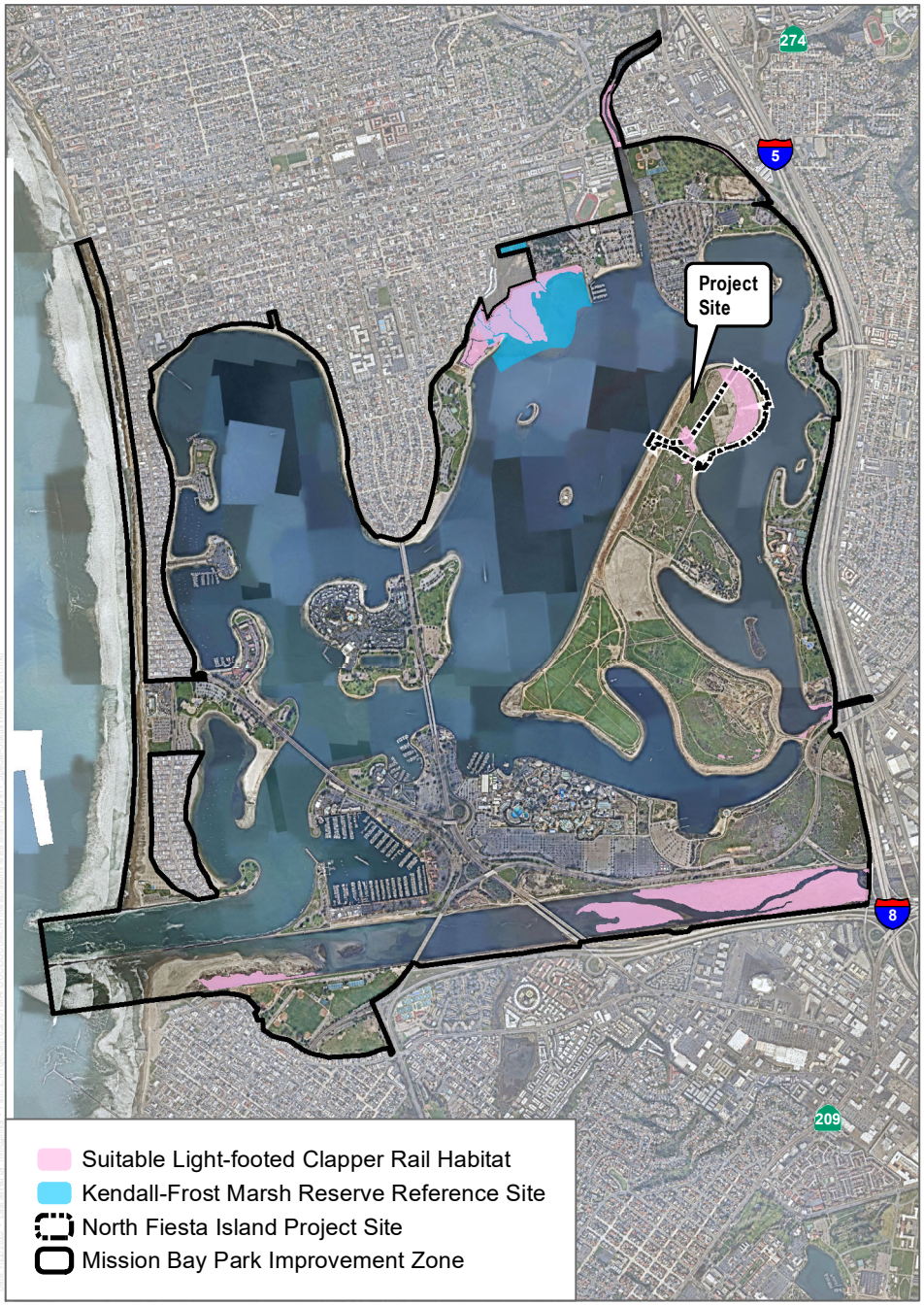

SOURCE: SANGIS 2023; City of San Diego 2018

DUDEK

0 250 500 Feet

FIGURE 11

Special-Status Species - Light-footed Clapper RailSuitable Habitat

North Fiesta Island Wetlands Restoration Project Conceptual Habitat Restoration and Monitoring Plan

INTENTIONALLY LEFT BLANK

SOURCE: SANGIS 2023; City of San Diego 2018

DUDEK

0 300 600 Feet

FIGURE 12

Special-Status Wildlife Species - Western Burrowing Owl

North Fiesta Island Wetlands Restoration Project Conceptual Habitat Restoration and Monitoring Plan

INTENTIONALLY LEFT BLANK

SOURCE: SANGIS 2023; City of San Diego 2018

DUDEK

0 300 600 Feet

FIGURE 13

Special-Status Wildlife Species - Belding's Savannah Sparrow

North Fiesta Island Wetlands Restoration Project Conceptual Habitat Restoration and Monitoring Plan

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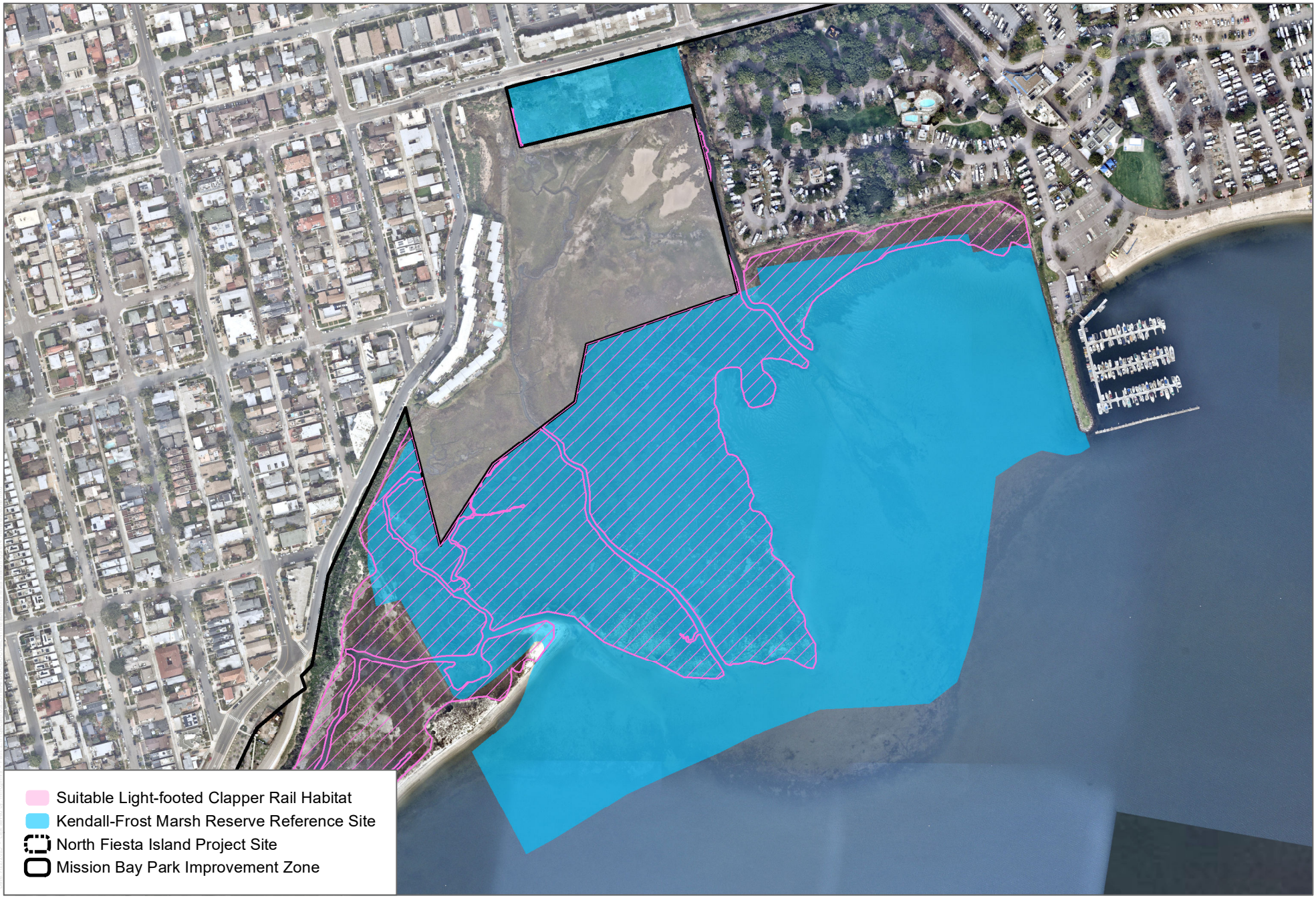

SOURCE: SANGIS 2023; City of San Diego 2018

DUDEK

0 250 500 Feet

FIGURE 14

Reference Site

North Fiesta Island Wetlands Restoration Project Conceptual Habitat Restoration and Monitoring Plan

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APPENDIX A

North Fiesta Island Wetland Restoration Design Plans

MISSION BAY PROGRAM EIR
NORTH FIESTA ISLAND WETLAND RESTORATION

CONTRACTOR'S RESPONSIBILITIES

1. PURSUANT TO SECTION 4216 OF THE CALIFORNIA GOVERNMENT CODE, AT LEAST 2 WORKING DAYS PRIOR TO EXCAVATION, YOU MUST CONTACT THE REGIONAL NOTIFICATION CENTER (E.G., UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA) AND OBTAIN AN INQUIRY IDENTIFICATION NUMBER.
2. NOTIFY SDG&E AT LEAST 10 WORKING DAYS PRIOR TO EXCAVATING WITHIN 10' OF SDG&E UNDERGROUND HIGH VOLTAGE TRANSMISSION POWER LINES (I.E., 69 KV & HIGHER).

MONUMENTATION / SURVEY NOTES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR SURVEY MONUMENTS AND/OR VERTICAL CONTROL BENCHMARKS WHICH ARE DISTURBED OR DESTROYED BY CONSTRUCTION. A LICENSED LAND SURVEYOR OR LICENSED CIVIL ENGINEER AUTHORIZED TO PRACTICE LAND SURVEYING IN THE STATE OF CALIFORNIA SHALL FIELD LOCATE, REFERENCE, AND/OR PRESERVE ALL HISTORICAL OR CONTROLLING MONUMENTS PRIOR TO ANY EARTHWORK, DEMOLITION, OR SURFACE IMPROVEMENTS. IF DESTROYED, A LICENSED LAND SURVEYOR SHALL REPLACE SUCH MONUMENT(S) WITH APPROPRIATE MONUMENT(S). WHEN SETTING SURVEY MONUMENTS USED FOR RE-ESTABLISHMENT OF THE DISTURBED CONTROLLING SURVEY MONUMENTS AS REQUIRED BY SECTIONS 6730.2 AND 8771 OF THE BUSINESS AND PROFESSIONS CODE OF THE STATE OF CALIFORNIA. A CORNER RECORD OR RECORD OF SURVEY, AS APPROPRIATE, SHALL BE FILED WITH THE COUNTY SURVEYOR. IF ANY VERTICAL CONTROL IS TO BE DISTURBED OR DESTROYED, THE CITY OF SAN DIEGO FIELD SURVEY SECTION SHALL BE NOTIFIED IN WRITING AT LEAST 7 DAYS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF REPLACING ANY VERTICAL CONTROL BENCHMARKS DESTROYED BY THE CONSTRUCTION.

ABBREVIATIONS

CY	CUBIC YARD
EL, ELEV	ELEVATION
EX, EXIST	EXISTING
FG	FINISH GRADE
FT	FEET
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
SD	STORM DRAIN
TYP	TYPICAL
IE	INVERT ELEVATION
MIN	MINIMUM
PROP	PROPOSED
MIN	MINIMUM

DISCIPLINE CODE

G	GENERAL
D	DEMOLITION
C	CIVIL

SHEET INDEX

INDEX #	SHEET #	DRAWING NAME
1	G-1	COVER SHEET
2	C-1	GRADING - PLAN 1
3	C-2	GRADING - PLAN 2
4	C-3	PROFILES
5	C-4	PROFILES
6	C-5	PROFILES
7	C-6	PROFILES
8	C-7	PROFILES
9	C-8	PROFILES

PROJECT TEAM

DUDEK: MIKE SWEESY, PRINCIPAL RESTORATION ECOLOGIST
EMILY SEKLECKI, ENVIRONMENTAL PLANNER

MOFFATT & NICHOL: CHRIS WEBB, SUPERVISORY COSTAL SCIENTIST
CRAIG FRAMPTON, COASTAL SCIENTIST
CHRIS O'DAY, COASTAL SCIENTIST

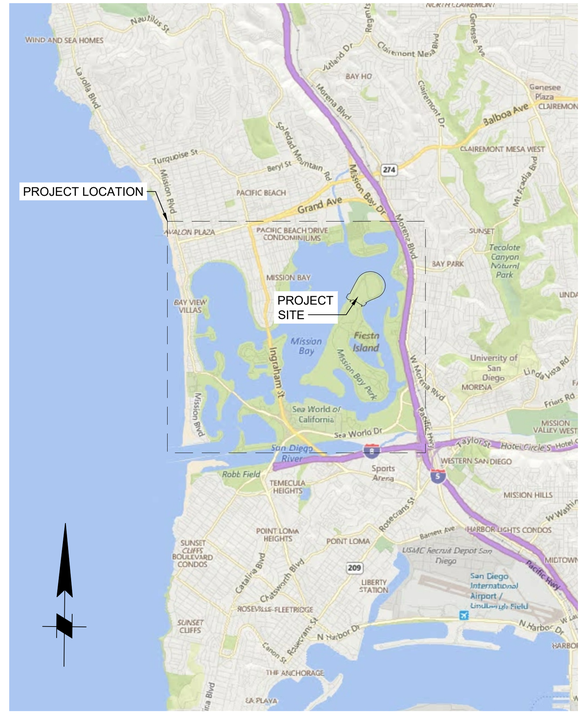
LEGEND

WETLAND ELEV RANGE (FEET, NGVD)	HABITAT
-6.0 - -3.8	SUBTIDAL / EELGRASS
-3.8 - 1.2	MUDFLAT
1.2 - 2.0	LOW MARSH
2.0 - 3.8	MID MARSH
3.8 - 4.8	HIGH MARSH
4.8 - 6.8	TRANSITIONAL
6.8 - 18.0	UPLAND

- BEACH/SANDY LEAST TERN PRESERVE WITH GENTLE SLOPE TO BEACH AND WETLANDS
- ROADWAY
- PROPOSED BRIDGE
- PROJECT BOUNDARY
- PHASE 1 CONSTRUCTION BOUNDARY
- 5 — EXISTING CONTOUR
- 5 — PROPOSED CONTOUR
- EXISTING ROAD
- EXISTING FIRE PIT TO BE RELOCATED
- MISC. POST TO BE REMOVED
- PROPOSED NEW ROADWAY
- CALIFORNIA COASTAL COMMISSION APPROVED BOUNDARY
- X — PROPOSED FENCE

PROJECT LOCATION

PROJECT LOCATION
NTS



VICINITY MAP
NTS

PRELIMINARY
NOT FOR CONSTRUCTION

CONSTRUCTION CHANGE / ADDENDUM			
CHANGE	DATE	AFFECTED OR ADDED SHEET NUMBERS	APPROVAL NO.

WARNING
0 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

The City of SAN DIEGO Public Works

moffatt & nichol
1660 HOTEL CIRCLE NORTH, SUITE 500
SAN DIEGO, CALIFORNIA 92108
PH (619) 220-6050 FAX (619) 220-6055

G-1

MISSION BAY PROGRAM EIR
NORTH FIESTA ISLAND
WETLANDS RESTORATION
COVER SHEET

SPEC. NO.

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 1 OF 9 SHEETS

WBS

APPROVED:
FOR CITY ENGINEER DATE
PRINT NAME RCE#

SUBMITTED BY:
PROJECT MANAGER

CHECKED BY:
PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			

226-1701
CCS27 COORDINATE
1866-6261
CCS83 COORDINATE
12078-02-D

CONTRACTOR
INSPECTOR
DATE STARTED
DATE COMPLETED

FILE NAME: p:\SD\12078-02\20 CADD_Active_Sheets\Set\20250224 G-1 - NORTHFIESTA ISLAND - Cover Sheet.dwg
PLOTTED: Friday, July 11, 2025 - 10:40am USER: jgroth

MATCH LINE SHEET C-2

LEAST TERN PRESERVE

MISC.POST TO BE REMOVED, TYP

EXISTING FIRE PIT TO BE RELOCATED, TYP

LEAST TERN UPLAND FG 12.00'

CALIFORNIA COASTAL COMMISSION APPROVED BOUNDARY (SEE NOTE 5)

SLOPE TO BEACH 20:1

SLOPE TO SALT MARSH 20:1

PROPOSED UNPAVED LEAST TERN ACCESS ROAD

VEGETATED DUNE FG 18.00'

BEACH

HIGH MARSH FG 3.80'

MID MARSH FG 2.00'

TRANSITIONAL FG 4.80'

LOW MARSH FG 1.20'

SUBTIDAL CHANNEL FG -3.80'

SUBTIDAL CHANNEL FG -6.00'

SLOPE 3:1, TYP

CONSTRUCTION PHASE 1

CONSTRUCTION PHASE 2

SUBTIDAL/EELGRASS

PROPOSED NEW FIESTA ISLAND ROAD FG 10.00'

NEW VEHICULAR ACCESS ROAD AND FUTURE BRIDGE (RESTRICTED FOR MAINTENANCE AND SCIENTIFIC MONITORING PURPOSES)

PROJECT BOUNDARY

NEW BRIDGE FOR SEASONAL USE ONLY

NEW MULTIUSE PATH FOR SEASONAL ACCESS ONLY

PROPOSED ROAD CONNECTION TO EXISTING ROAD

EXISTING ROAD

FIESTA BAY

NORTH FIESTA ISLAND

1 C-3

2 C-3

3 C-3

7 C-4

LEGEND

WETLAND ELEV RANGE (FEET, NGVD)	HABITAT
-6.0 - -3.8	SUBTIDAL / EELGRASS
-3.8 - 1.2	MUDFLAT
1.2 - 2.0	LOW MARSH
2.0 - 3.8	MID MARSH
3.8 - 4.8	HIGH MARSH
4.8 - 6.8	TRANSITIONAL
6.8 - 18.0	UPLAND

- BEACH/SANDY LEAST TERN PRESERVE WITH GENTLE SLOPE TO BEACH AND WETLANDS
- ROADWAY
- PROPOSED BRIDGE
- PROJECT BOUNDARY
- PHASE 1 CONSTRUCTION BOUNDARY
- 5 EXISTING CONTOUR
- 5 PROPOSED CONTOUR
- EXISTING ROAD
- EXISTING FIRE PIT TO BE RELOCATED
- MISC. POST TO BE REMOVED
- PROPOSED NEW ROADWAY
- CALIFORNIA COASTAL COMMISSION APPROVED BOUNDARY
- X PROPOSED FENCE

NOTES

1. ALL ELEVATIONS ARE IN REFERENCE TO NGVD 29 VERTICAL DATUM.
2. CONSTRUCTION PHASING SUMMARY:
   PHASE 1: VEHICULAR ACCESS ROAD AND FUTURE BRIDGE CONNECTION TO LEAST TERN PRESERVE, GRADING/EARTH WORK FOR LEAST TERN PRESERVE AND NEW FIESTA ISLAND ROAD.

   PHASE 2 : SUB-TIDAL CHANNEL CONNECTION TO THE BAY. A PORTION OF THE NEW VEHICULAR ACCESS ROAD THAT CONNECTS THE LEAST TERN PRESERVE TO NORTH FIESTA ROAD WILL BE REPLACED WITH A BRIDGE STRUCTURE IN PHASE 2. WETLAND RESTORATION GRADING.
3. ALL CONSTRUCTION SLOPES ARE 3:1 (FEET HORIZONTAL : FEET VERTICAL) UNLESS OTHERWISE NOTED.
4. PHASE 1 INCLUDES GRADING TO TOP OF LEAST TERN PRESERVE AT +12'. FINAL GRADING OF LEAST TERN PRESERVE WILL BE COMPLETED IN PHASE 2 WITH GRADING OF FINAL SIDE SLOPES THAT TIE INTO THE UPPER ELEVATIONS OF THE WETLANDS.
5. THE CONSTRUCTION PHASING BOUNDARY OVERLAPS THE CALIFORNIA COASTAL COMMISSION BOUNDARY ALONG THE MARSH SIDE OF THE LEAST TERN PRESERVE.

80' 40' 0 80' 160'

SCALE: 1"=80'

C-1

PRELIMINARY
NOT FOR CONSTRUCTION

MISSION BAY PROGRAM EIR
NORTH FIESTA ISLAND WETLANDS RESTORATION
GRADING PLAN

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 2 OF 9 SHEETS

WBS

APPROVED:
FOR CITY ENGINEER DATE
PRINT NAME RCE#

SUBMITTED BY:
PROJECT MANAGER

CHECKED BY:
PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			

226-1701
CCS27 COORDINATE

1866-6261
CCS83 COORDINATE

CONTRACTOR DATE STARTED
INSPECTOR DATE COMPLETED

12078-02-D

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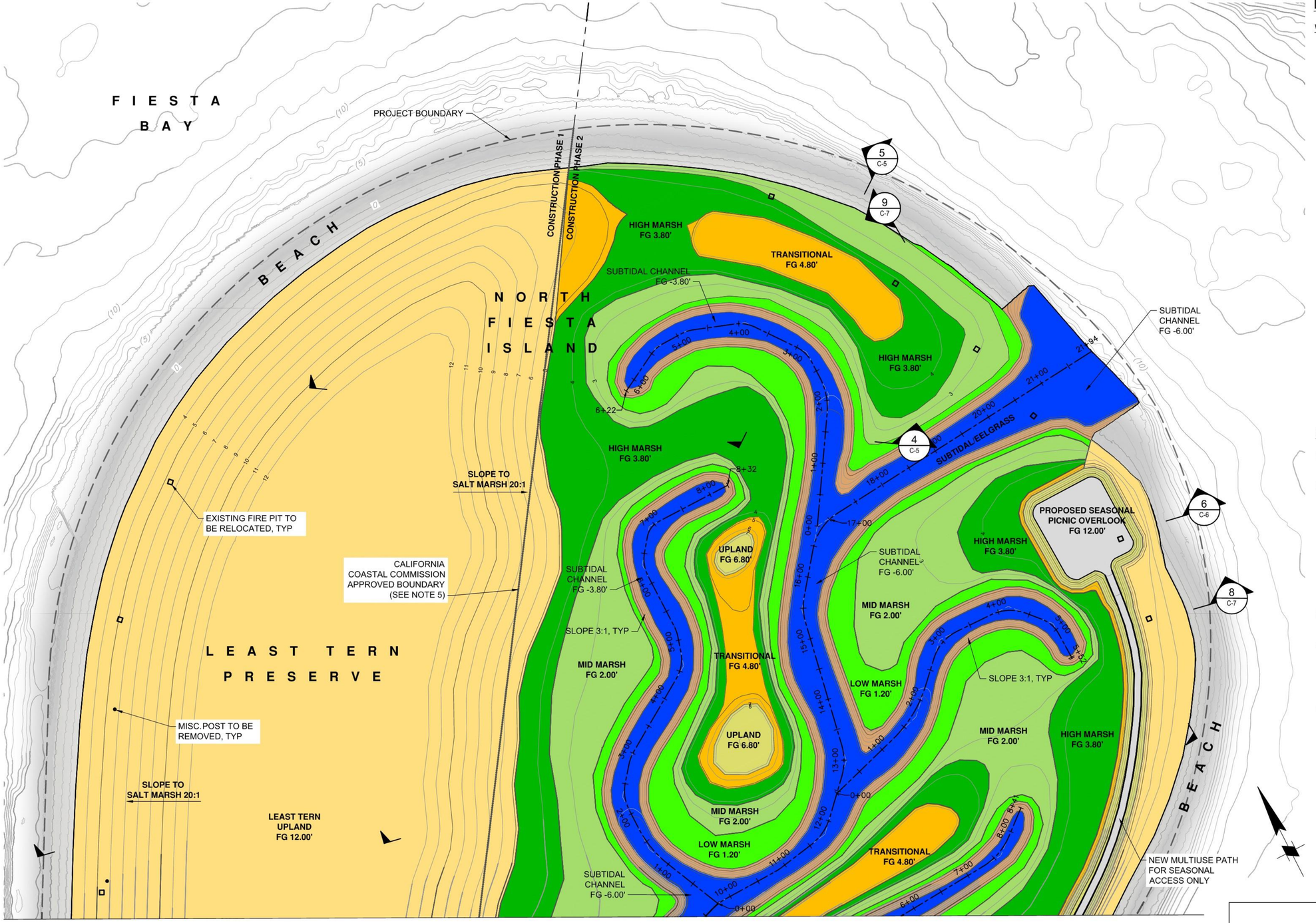

LEGEND

WETLAND ELEV RANGE (FEET, NGVD)	HABITAT
-6.0 - -3.8	SUBTIDAL / EELGRASS
-3.8 - 1.2	MUDFLAT
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- PROJECT BOUNDARY
- PHASE 1 CONSTRUCTION BOUNDARY
- 5 EXISTING CONTOUR
- 5 PROPOSED CONTOUR
- EXISTING ROAD
- EXISTING FIRE PIT TO BE RELOCATED
- MISC. POST TO BE REMOVED
- PROPOSED NEW ROADWAY
- CALIFORNIA COASTAL COMMISSION APPROVED BOUNDARY
- X PROPOSED FENCE

NOTES

1. ALL ELEVATIONS ARE IN REFERENCE TO NGVD 29 VERTICAL DATUM.
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5. THE CONSTRUCTION PHASING BOUNDARY OVERLAPS THE CALIFORNIA COASTAL COMMISSION BOUNDARY ALONG THE MARSH SIDE OF THE LEAST TERN PRESERVE.

80' 40' 0 80' 160'
SCALE: 1"=80'

C-2

MISSION BAY PROGRAM EIR
NORTH FIESTA ISLAND WETLANDS RESTORATION
GRADING PLAN

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 3 OF 9 SHEETS

WBS

APPROVED: FOR CITY ENGINEER ____ DATE ____
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SUBMITTED BY: PROJECT MANAGER
CHECKED BY: PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			

226-1701 CCS27 COORDINATE
1866-6261 CCS83 COORDINATE

CONTRACTOR ____ DATE STARTED ____
INSPECTOR ____ DATE COMPLETED ____

12078-02-D

PRELIMINARY
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NORTH FIESTA ISLAND

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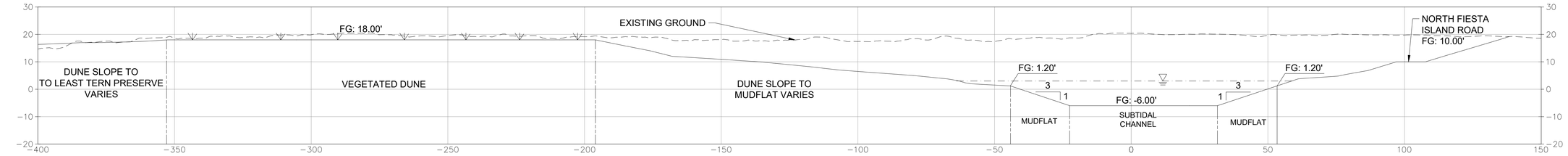

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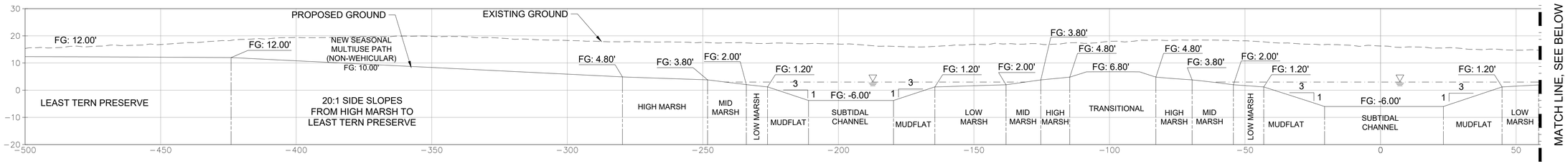

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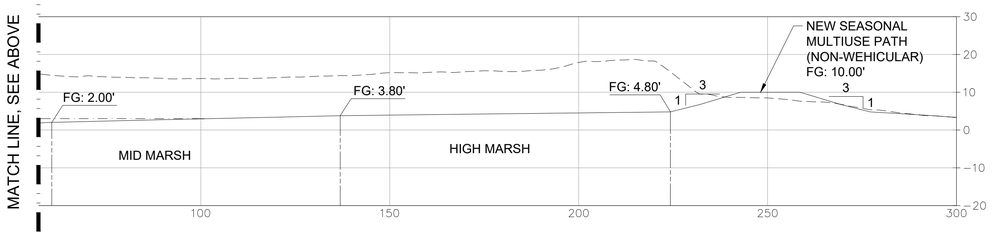

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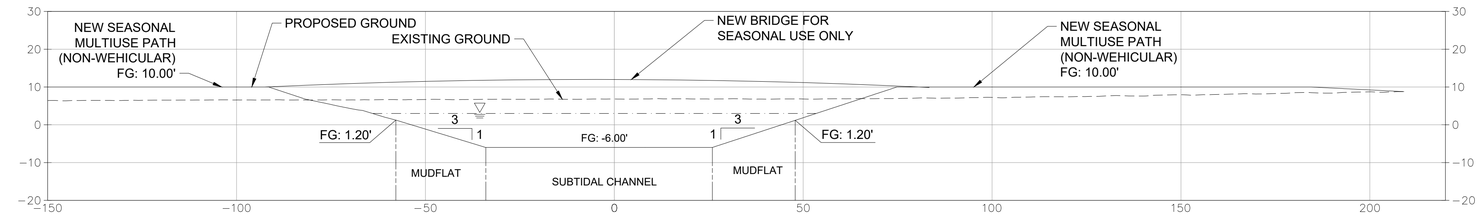

3 C-1 **SECTION**
SCALE: 1"=20' H, 1"=20' V

NOTES

1. ALL SLOPES SHALL BE A MAXIMUM STEEPNESS OF 3H:1V UNLESS OTHERWISE NOTED.
2. ALL ELEVATIONS ARE IN REFERENCE TO NGVD 29 VERTICAL DATUM.

LEGEND

- EXISTING GROUND
- FINISHED GROUND
- MHHW LINE (+3.00')
- HABITAT BOUNDARY
- VEGETATION

20 10 0 20 40
SCALE: 1"=20'

PRELIMINARY
NOT FOR CONSTRUCTION

C-3

MISSION BAY PROGRAM EIR
NORTH FIESTA ISLAND WETLANDS RESTORATION
NORTH FIESTA ISLAND – SECTIONS

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 4 OF 9 SHEETS

WBS

APPROVED: FOR CITY ENGINEER ____ DATE ____
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CHECKED BY: PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			

226–1701 CCS27 COORDINATE
1866–6261 CCS83 COORDINATE

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INSPECTOR ____ DATE COMPLETED ____

12078–02–D

NORTH FIESTA ISLAND

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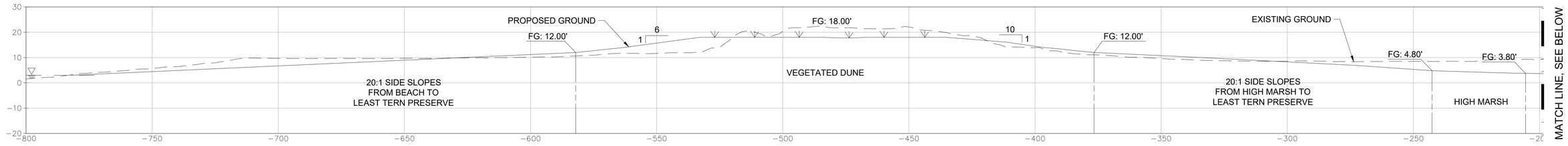

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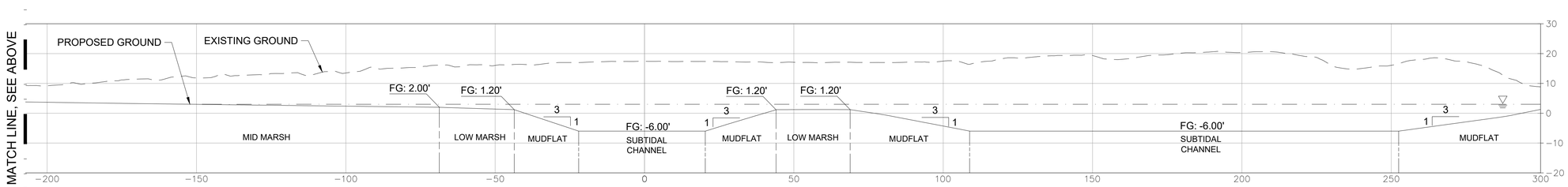


7 / C-1 **SECTION, CONT.**
SCALE: 1"=20' H, 1"=20' V

NOTES

1. ALL SLOPES SHALL BE A MAXIMUM STEEPNESS OF 3H:1V UNLESS OTHERWISE NOTED.
2. ALL ELEVATIONS ARE IN REFERENCE TO NGVD 29 VERTICAL DATUM.

LEGEND

- EXISTING GROUND / HIGH MARSH
- FINISHED GROUND
- MHHW LINE (+3.00')
- HABITAT BOUNDARY
- VEGETATION

20 10 0 20 40
SCALE: 1"=20'

PRELIMINARY
NOT FOR CONSTRUCTION

C-4

MISSION BAY PROGRAM EIR
NORTH FIESTA ISLAND
WETLANDS RESTORATION
NORTH FIESTA ISLAND – SECTIONS

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 5 OF 9 SHEETS

WBS

APPROVED:
FOR CITY ENGINEER ____ DATE
PRINT NAME ____ RCE#

SUBMITTED BY:
PROJECT MANAGER

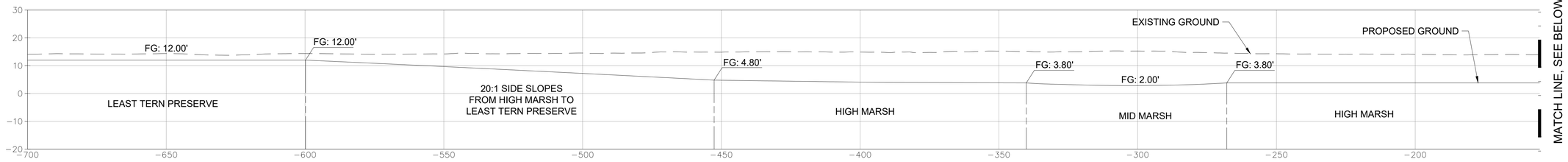
CHECKED BY:
PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			

226–1701
CCS27 COORDINATE
1866–6261
CCS83 COORDINATE
12078–02–D

CONTRACTOR ____ DATE STARTED ____
INSPECTOR ____ DATE COMPLETED ____

NORTH FIESTA ISLAND



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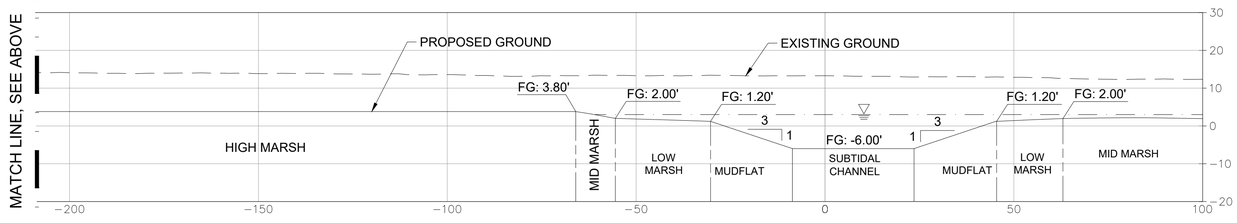

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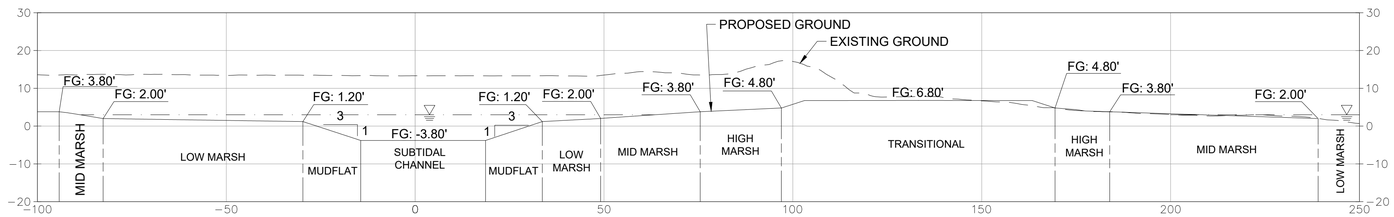


5 C-2 **SECTION**
SCALE: 1"=20' H, 1"=20' V

NOTES

1. ALL SLOPES SHALL BE A MAXIMUM STEEPNESS OF 3H:1V UNLESS OTHERWISE NOTED.
2. ALL ELEVATIONS ARE IN REFERENCE TO NGVD 29 VERTICAL DATUM.

LEGEND

- EXISTING GROUND
- FINISHED GROUND
- MHHW LINE (+3.00')
- HABITAT BOUNDARY

20 10 0 20 40
SCALE: 1"=20'

PRELIMINARY
NOT FOR CONSTRUCTION

C-5

MISSION BAY PROGRAM EIR
NORTH FIESTA ISLAND WETLANDS RESTORATION
NORTH FIESTA ISLAND – SECTIONS

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 6 OF 9 SHEETS

WBS

APPROVED:
FOR CITY ENGINEER DATE
PRINT NAME RCE#

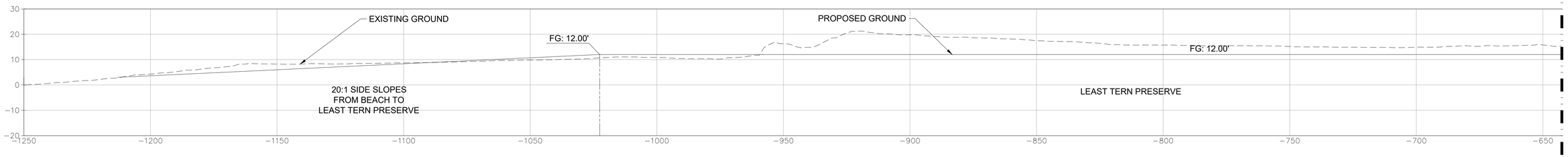
SUBMITTED BY:
PROJECT MANAGER
CHECKED BY:
PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			

226–1701
CCS27 COORDINATE
1866–6261
CCS83 COORDINATE

CONTRACTOR DATE STARTED
INSPECTOR DATE COMPLETED
12078–02–D

NORTH FIESTA ISLAND



6 C-2 **SECTION**
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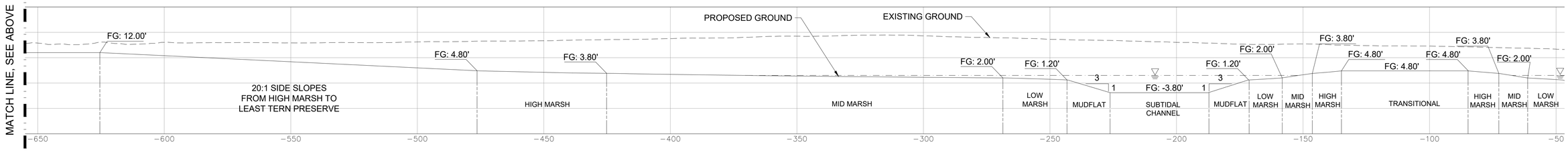

6 C-2 **SECTION, CONT.**
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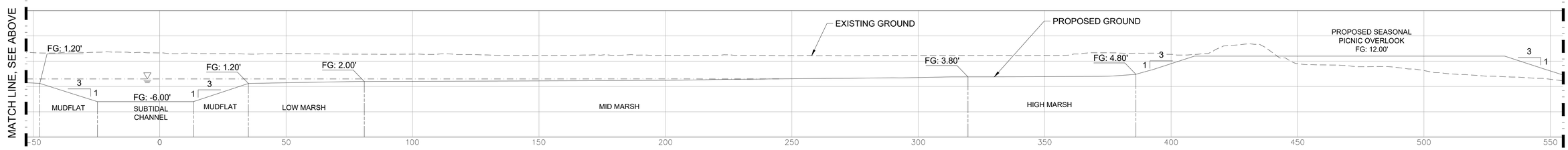
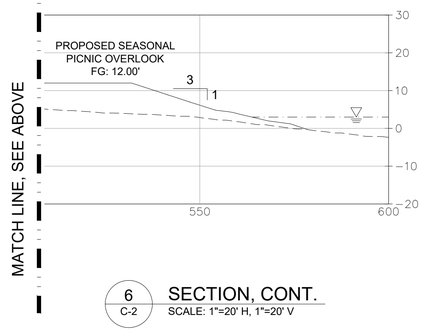


6 C-2 **SECTION, CONT.**
SCALE: 1"=20' H, 1"=20' V



6 C-2 **SECTION, CONT.**
SCALE: 1"=20' H, 1"=20' V

NOTES

1. ALL SLOPES SHALL BE A MAXIMUM STEEPNESS OF 3H:1V UNLESS OTHERWISE NOTED.
2. ALL ELEVATIONS ARE IN REFERENCE TO NGVD 29 VERTICAL DATUM.

LEGEND

- EXISTING GROUND
- FINISHED GROUND
- MHHW LINE (+3.00')
- HABITAT BOUNDARY

20 10 0 20 40
SCALE: 1"=20'

PRELIMINARY
NOT FOR CONSTRUCTION

NORTH FIESTA ISLAND

C–6

MISSION BAY PROGRAM EIR
NORTH FIESTA ISLAND WETLANDS RESTORATION
NORTH FIESTA ISLAND – SECTIONS

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 7 OF 9 SHEETS

WBS

APPROVED:
FOR CITY ENGINEER ____ DATE
PRINT NAME ____ RCE#

SUBMITTED BY:
PROJECT MANAGER

CHECKED BY:
PROJECT ENGINEER

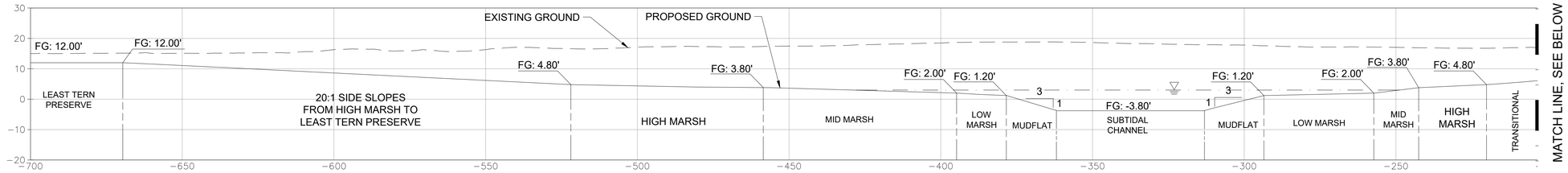
DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			

226–1701
CCS27 COORDINATE
1866–6261
CCS83 COORDINATE

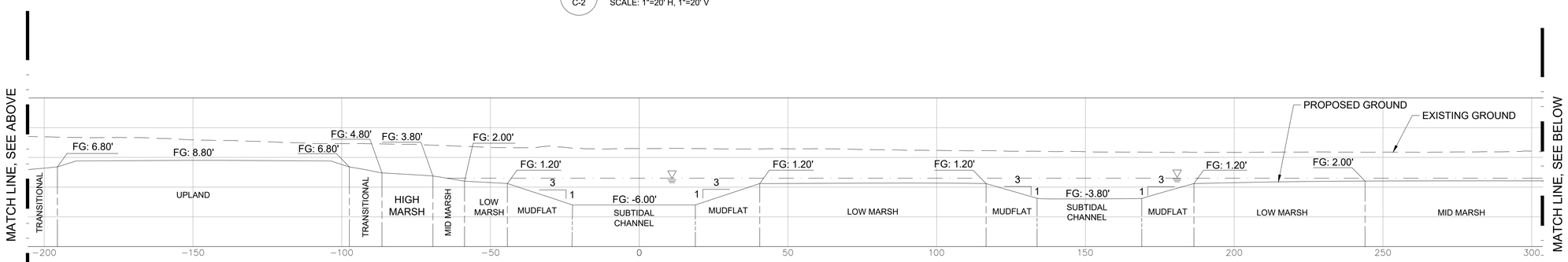
CONTRACTOR ____ DATE STARTED ____
INSPECTOR ____ DATE COMPLETED ____

12078–02–D

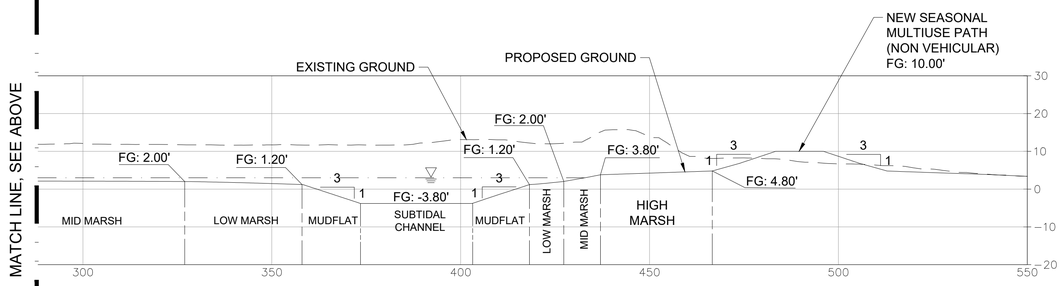
FILE NAME: Q:\SD\12078-02\20 CADD_Active_SheetSet\20250224 C-5 - NORTH FIESTA ISLAND - Sections.dwg
PLOTTED: Friday, July 11, 2025 - 9:58am USER: jyoth



8 / C-2 **SECTION**
SCALE: 1"=20' H, 1"=20' V



8 / C-2 **SECTION, CONT.**
SCALE: 1"=20' H, 1"=20' V



8 / C-2 **SECTION, CONT.**
SCALE: 1"=20' H, 1"=20' V

NOTES

1. ALL SLOPES SHALL BE A MAXIMUM STEEPNESS OF 3H:1V UNLESS OTHERWISE NOTED.
2. ALL ELEVATIONS ARE IN REFERENCE TO NGVD 29 VERTICAL DATUM.

LEGEND

- EXISTING GROUND
- FINISHED GROUND
- MHHW LINE (+3.00')
- HABITAT BOUNDARY

20 10 0 20 40
SCALE: 1"=20'

PRELIMINARY
NOT FOR CONSTRUCTION

NORTH FIESTA ISLAND

C-7

MISSION BAY PROGRAM EIR
NORTH FIESTA ISLAND
WETLANDS RESTORATION
NORTH FIESTA ISLAND – SECTIONS

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 8 OF 9 SHEETS

WBS

APPROVED:
FOR CITY ENGINEER DATE
PRINT NAME RCE#

SUBMITTED BY:
PROJECT MANAGER

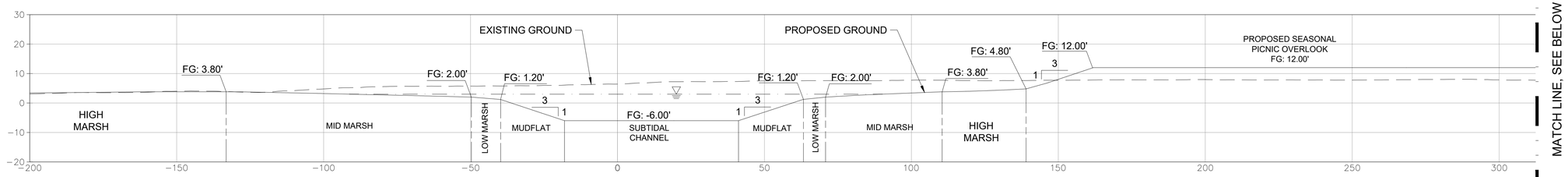
CHECKED BY:
PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			

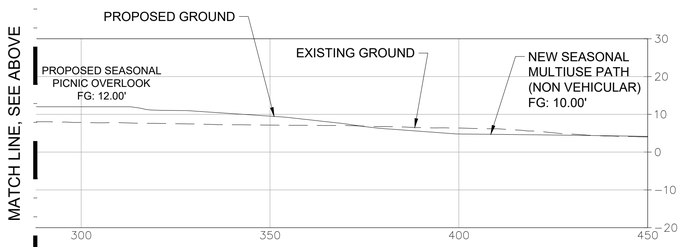
226–1701
CCS27 COORDINATE
1866–6261
CCS83 COORDINATE
12078–02–D

CONTRACTOR DATE STARTED
INSPECTOR DATE COMPLETED

FILE NAME: Q:\SDI\10278-02\20 CADD_Active_SheetSet\20250224 C-7 - NORTH FIESTA ISLAND - Sections.dwg
PLOTTED: Friday, July 11, 2025 - 10:00am USER: jgroth



9 / C-2 **SECTION**
SCALE: 1"=20' H, 1"=20' V



9 / C-2 **SECTION, CONT.**
SCALE: 1"=20' H, 1"=20' V

NOTES

1. ALL SLOPES SHALL BE A MAXIMUM STEEPNESS OF 3H:1V UNLESS OTHERWISE NOTED.
2. ALL ELEVATIONS ARE IN REFERENCE TO NGVD 29 VERTICAL DATUM.

LEGEND

- EXISTING GROUND
- FINISHED GROUND
- MHHW LINE (+3.00')
- HABITAT BOUNDARY

20 10 0 20 40
SCALE: 1"=20'

PRELIMINARY
NOT FOR CONSTRUCTION

C-8

MISSION BAY PROGRAM EIR
NORTH FIESTA ISLAND
WETLANDS RESTORATION
NORTH FIESTA ISLAND – SECTIONS

CITY OF SAN DIEGO, CALIFORNIA
PUBLIC WORKS DEPARTMENT
SHEET 9 OF 9 SHEETS

WBS

APPROVED:
FOR CITY ENGINEER — DATE
PRINT NAME — RCE#

SUBMITTED BY:
PROJECT MANAGER

CHECKED BY:
PROJECT ENGINEER

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	REC			

226–1701
CCS27 COORDINATE

1866–6261
CCS83 COORDINATE

CONTRACTOR — DATE STARTED
INSPECTOR — DATE COMPLETED

12078–02–D

NORTH FIESTA ISLAND